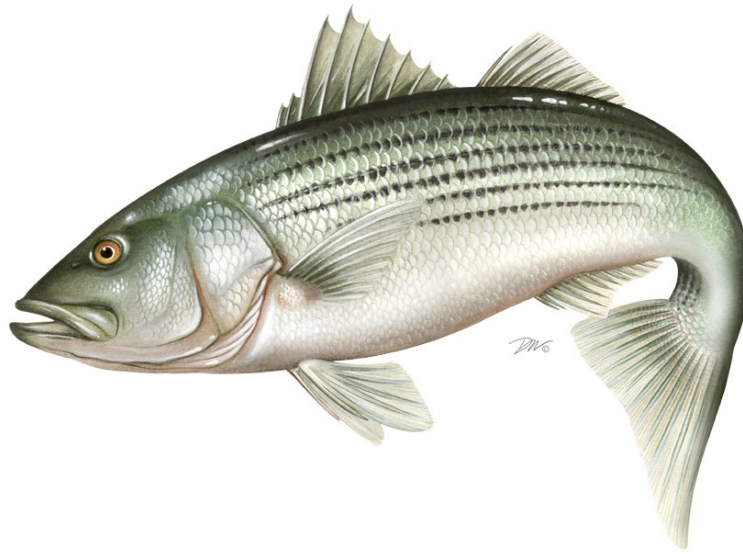


DRAFT FOR BOARD REVIEW

**ATLANTIC STATES MARINE FISHERIES COMMISSION**  
**REVIEW OF THE INTERSTATE FISHERY MANAGEMENT PLAN**  
**FOR ATLANTIC STRIPED BASS**  
***(Morone saxatilis)***  
**2023 FISHING YEAR**



Prepared by the Striped Bass Plan Review Team

**For Board Review**

July 2024



*Sustainable and Cooperative Management of Atlantic Coastal Fisheries*

**DRAFT FOR BOARD REVIEW**

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### I. Status of the Fishery Management Plan

<u>Date of FMP Approval:</u>	Original FMP – 1981
<u>Amendments:</u>	Amendment 1 – 1984 Amendment 2 – 1984 Amendment 3 – 1985 Amendment 4 – 1989; Addendum I – 1991, Addendum II – 1992, Addendum III – 1993, Addendum IV – 1994 Amendment 5 – 1995; Addendum I – 1997, Addendum II – 1997, Addendum III – 1998, Addendum IV – 1999, Addendum V – 2000 Amendment 6 – 2003; Addendum I – 2007, Addendum II – 2010, Addendum III – 2012, Addendum IV – 2014, Addendum VI -2019 Amendment 7 – 2022; Addendum I – 2023
<u>Management Unit:</u>	Migratory stocks of Atlantic striped bass from Maine through North Carolina
<u>States With Declared Interest:</u>	Maine - North Carolina, including Pennsylvania
<u>Additional Jurisdictions:</u>	District of Columbia, Potomac River Fisheries Commission, National Marine Fisheries Service, United States Fish and Wildlife Service
<u>Active Boards/Committees:</u>	Atlantic Striped Bass Management Board, Advisory Panel, Technical Committee, Stock Assessment Subcommittee, Tagging Subcommittee, Plan Review Team, and Plan Development Team

#### Original FMP and Amendments 1-5

The Atlantic States Marine Fisheries Commission (Commission) developed a Fisheries Management Plan (FMP) for Atlantic Striped Bass in 1981 in response to poor juvenile recruitment and declining landings. The FMP recommended increased restrictions on commercial and recreational fisheries, such as minimum size limits and harvest closures on spawning grounds. Two amendments were passed in 1984 recommending additional management measures to reduce fishing mortality. To strengthen the management response and improve compliance and enforcement, the Atlantic Striped Bass Conservation Act (P.L. 98-613) was passed in late 1984. The Striped Bass Act<sup>1</sup> mandated the implementation of striped bass regulations passed by the Commission and gave the Commission authority to recommend to the Secretaries of Commerce and Interior that states be found out of compliance when they failed to implement management measures consistent with the FMP.

The first enforceable plan under the Striped Bass Act, Amendment 3, was approved in 1985, and required size regulations to protect the 1982 year class – the first modest size cohort since the

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<sup>1</sup> The 1997 reauthorization of the Striped Bass Act also required the Secretaries of Commerce and Interior provide a biennial report to Congress highlighting the progress and findings of studies of migratory and estuarine Striped Bass. The ninth such report was recently provided to Congress (Shepherd et al. 2017).

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previous decade. The objective was to increase size limits to allow at least 95% of the females in the 1982 year class to spawn at least once. Smaller size limits were permitted in producer areas than along the coast. Several states, beginning with Maryland in 1985, opted for a more conservative approach and imposed a total moratorium on striped bass landings for several years. The amendment contained a trigger mechanism to relax regulations when the 3-year moving average of the Maryland juvenile abundance index (JAI) exceeded an arithmetic mean of 8.0 – which was attained with the recruitment of the 1989 year class. Also, in 1985, the Commission determined the Albemarle Sound-Roanoke River (A-R) stock in North Carolina contributed minimally to the coastal migratory population, and was therefore allowed to operate under an alternative management program.

Amendment 4, implemented in 1989, aimed to rebuild the resource rather than maximize yield. The amendment allowed state fisheries to reopen under a target fishing mortality (F) of 0.25, which was half the estimated F needed to achieve maximum sustainable yield (MSY). The amendment allowed an increase in the target F once spawning stock biomass (SSB) was restored to levels estimated during the late 1960s and early 1970s. The dual size limit concept was maintained (coastal versus producer areas), and a recreational trip limit and commercial season was implemented to reduce the harvest to 20% of that in the historic period of 1972-1979. A series of four addenda were implemented from 1990-1994 to maintain protection of the 1982 year class.

In 1990, to provide additional protection to striped bass and ensure the effectiveness of state regulations, NOAA Fisheries passed a final rule (55 Federal Register 40181-02) prohibiting possession, fishing (catch and release fishing), harvest, and retention of Atlantic striped bass in the Exclusive Economic Zone (EEZ), with the exception of a defined transit zone within Block Island Sound. Atlantic striped bass may be transported through this defined area provided that the vessel is not used to fish while in the EEZ and the vessel remains in continuous transit, and that the fish were legally caught in adjoining state waters.

In 1995, the Atlantic striped bass migratory stock was declared recovered by the Commission (the A-R stock was declared recovered in 1997) and Amendment 5 was adopted to increase the target F to 0.33, midway between the existing F target (0.25) and  $F_{MSY}$ . Target F was allowed to increase again to 0.40 after two years of implementation. Regulations were developed to achieve the target F (which included measures to restore commercial harvest to 70% of the average landings during the 1972-1979 historical period) and states were allowed to submit proposals to implement alternative regulations that were deemed conservationally equivalent to the Amendment 5 measures. From 1997-2000, a series of five addenda were implemented to respond to the latest stock status information and adjust the regulatory program to achieve each change in target F.

### Amendment 6

In 2003, Amendment 6 was adopted to address five limitations within the existing management program: 1) potential inability to prevent the Amendment 5 exploitation target from being exceeded; 2) perceived decrease in availability or abundance of large striped bass in the coastal migratory population; 3) a lack of management direction with respect to target and threshold biomass levels; 4) inequitable effects of regulations on the recreational and commercial fisheries, and coastal and

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producer area sectors; and 5) excessively frequent changes to the management program. Accordingly, Amendment 6 completely replaced the existing FMP for Atlantic striped bass.<sup>2</sup>

The goal of Amendment 6 is “to perpetuate, through cooperative interstate management, migratory stocks of striped bass; to allow commercial and recreational fisheries consistent with the long-term maintenance of a broad age structure, a self-sustaining spawning stock; and also to provide for the restoration and maintenance of their essential habitat.” In support of this goal, the following objectives are included:

1. Manage striped bass fisheries under a control rule designed to maintain stock size at or above the target female spawning stock biomass level and a level of fishing mortality at or below the target exploitation rate.
2. Manage fishing mortality to maintain an age structure that provides adequate spawning potential to sustain long-term abundance of striped bass populations.
3. Provide a management plan that strives, to the extent practical, to maintain coastwide consistency of implemented measures, while allowing the States defined flexibility to implement alternative strategies that accomplish the objectives of the FMP.
4. Foster quality and economically viable recreational, for-hire, and commercial fisheries.
5. Maximize cost effectiveness of current information gathering and prioritize state obligations in order to minimize costs of monitoring and management.
6. Adopt a long-term management regime that minimizes or eliminates the need to make annual changes or modifications to management measures.
7. Establish a fishing mortality target that will result in a net increase in the abundance (pounds) of age 15 and older striped bass in the population, relative to the 2000 estimate.

Amendment 6 modified the F target and threshold, and introduced a new set of biological reference points (BRPs) based on female SSB, as well as a list of management triggers based on the BRPs. The coastal commercial quotas were restored to 100% of the states’ average landings during the 1972-1979 historical period, except for Delaware’s coastal commercial quota which remained at the level allocated in 2002<sup>3</sup>. In the recreational fisheries, all states were required to implement a two-fish bag limit with a minimum size limit of 28 inches, except for the Chesapeake Bay fisheries, North Carolina fisheries that operate in the A-R, and states with approved alternative regulations. The Chesapeake Bay and A-R regulatory programs were predicated on a more conservative F target than the coastal migratory stock, which allowed these states/jurisdictions (hereafter states) to implement separate seasons, harvest caps, and size and bag limits as long as they remain under that F target. No minimum

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<sup>2</sup> While NOAA Fisheries continues to implement a complete ban on the fishing and harvest of striped bass in the EEZ, Amendment 6 includes a recommendation to consider reopening the EEZ to striped bass fisheries. In September 2006, NOAA Fisheries concluded that it would be imprudent to open the EEZ to striped bass fishing because it could not be certain that opening the EEZ would not lead to increased effort and an overfishing scenario.

<sup>3</sup> The decision to hold Delaware’s commercial quota at the 2002 level is based on tagging information that indicated F on the Delaware River/Bay stock is too high, and uncertainty regarding the status of the spawning stock for the Delaware River/Bay.

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size limit can be less than 18 inches under Amendment 6. The same minimum size standards regulate the commercial fisheries as the recreational fisheries, except for a minimum 20 inch size limit in the Delaware Bay spring American shad gillnet fishery.

States are permitted the flexibility to deviate from these regulations by submitting conservation equivalency proposals to the Plan Review Team (PRT). All proposals are subject to technical review and approval by the Atlantic Striped Bass Management (Board). It is the responsibility of the state to demonstrate through quantitative analysis that the proposed management program is equivalent to the standards in the FMP, or will not contribute to the overfishing of the resource.

Five addenda to Amendment 6 have been implemented. Addendum I, approved in 2007, established a bycatch monitoring and research program to increase the accuracy of data on striped bass discards and recommended development of a web-based angler education program. Also in 2007, President George W. Bush issued an Executive Order (E.O. 13449) prohibiting the sale of striped bass (and red drum) caught within the EEZ. Addendum II was approved in 2010 and established a new definition of recruitment failure such that each index would have a fixed threshold rather than a threshold that changes annually with the addition of each year's data. Addendum III was approved in 2012 and requires all states with a commercial fishery for striped bass to implement a uniform commercial harvest tagging program. The Addendum was initiated in response to significant poaching events in the Chesapeake Bay and aims to limit illegal harvest of striped bass.

Addendum IV was triggered in response to the 2013 benchmark assessment, which indicated a steady decline in SSB since the mid-2000s. The Addendum established new F reference points, and changed commercial and recreational measures to reduce F to a level at or below the new target. Chesapeake Bay fisheries were required to implement lower reductions than coastal states (20.5% compared to 25%) since their fisheries were reduced by 14% in 2013 based on their management program. The addendum maintained the flexibility to implement alternative regulations through the conservation equivalency process. This practice has resulted in a variety of regulations among states. All states promulgated regulations prior to the start of their 2015 seasons.

Addendum VI was initiated in response to the 2018 benchmark assessment which indicated the stock is overfished and experiencing overfishing<sup>4</sup>. Approved in October 2019, the Addendum aimed to reduce total removals by 18% relative to 2017 levels in order to achieve F target in 2020. Specifically, the Addendum reduced all state commercial quotas by 18%, and implemented a 1 fish bag limit and a 28" to less than 35" slot limit for ocean fisheries and a 1 fish bag limit and an 18" minimum size limit in Chesapeake Bay to reduce total recreational removals by 18% in both regions. The Addendum's

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<sup>4</sup> In February 2017, the Board initiated development of Draft Addendum V to consider liberalizing coastwide commercial and recreational regulations. The Board's action responded to concerns raised by Chesapeake Bay jurisdictions regarding continued economic hardship endured by its stakeholders since the implementation of Addendum IV and information from the 2016 stock assessment update indicating that F was below target in 2015, and that total removals could increase by 10% to achieve the target F. However, the Board chose to not advance the draft addendum for public comment largely due to harvest estimates having increased in 2016 without changing regulations. Instead, the Board decided to wait until it reviews the results of the 2018 benchmark stock assessment before considering making changes to the management program.

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measures were designed to apply the needed reductions proportionally to both the commercial and recreational sectors, although states were permitted to submit alternative regulations through conservation equivalency that achieve an 18% reduction in total removals statewide. The Board reviewed and approved management options for 2020 on a state-by-state basis in February, and all states promulgated regulations by April 1.

Addendum VI also required the mandatory use of circle hooks when fishing with bait to reduce release mortality in recreational striped bass fisheries. States are encouraged to promote the use of circle hooks through various public outreach and education platforms to garner support and compliance with this important conservation measure. In October 2020, the Board approved state implementation plans for circle hook requirements, with the caveat that no exemptions to Addendum VI mandatory circle hook requirements will be permitted. Circle hook regulations were required to be implemented no later than January 1, 2021. In March 2021, the Board approved a clarification on the definition of bait and methods of fishing<sup>5</sup> that require circle hooks, which must be implemented by states as part of Addendum VI compliance. Per Commission standards, states could implement more restrictive measures. The Board also approved guidance on how to address incidental catch of striped bass when targeting other species with non-circle hooks with bait attached. This guidance was not a compliance criterion since incidental catch was not originally part of Addendum VI.

### Amendment 7

Amendment 7 was approved in May 2022, and consolidates Amendment 6 and its associated addenda into a single document. The purpose of Amendment 7 is to update the management program to align with current fishery needs and priorities given the status and understanding of the resource and fishery has changed considerably since implementation of Amendment 6 in 2003. Amendment 7 builds upon the Addendum VI to Amendment 6 action to address overfishing and initiate rebuilding in response to the overfished finding from the 2018 stock assessment, requiring the Board to rebuild the stock by 2029. Amendment 7 established new requirements for the following components of the FMP: management triggers, conservation equivalency, additional measures to address recreational release mortality, and the stock rebuilding plan.

For management triggers, Amendment 7 established an updated recruitment management trigger that is more sensitive to low recruitment than the previous trigger, and it required a specific management response to low year class strength. The response requires re-evaluation of the fishing mortality management triggers to account for low recruitment. If one of those triggers trips after reevaluation, the Board is required to take action to reduce fishing mortality. Amendment 7 also updated the spawning stock biomass triggers by establishing a deadline for implementing a rebuilding plan. The Board must implement a rebuilding plan within two years of when a spawning stock biomass trigger is tripped.

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<sup>5</sup> Definition of Bait and Methods of Fishing: Circle hooks are required when fishing for striped bass with bait, which is defined as any marine or aquatic organism live or dead, whole or parts thereof. This shall not apply to any artificial lure with bait attached.

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For conservation equivalency (CE), Amendment 7 does not allow CE to be used for most recreational striped bass fisheries when the stock is overfished. Amendment 7 also provided constraints around the use of Marine Recreational Information Program data for CE proposals and defines the overall percent reduction/liberalization a proposal must achieve, including required uncertainty buffers. These restrictions are intended to minimize the risks due to uncertainty when CE is used for non-quota managed striped bass fisheries.

For recreational release mortality, Amendment 7 established a new gear restriction which prohibits gaffing striped bass when fishing recreationally. This is in addition to the existing circle hook requirement when fishing recreationally with bait. Additionally, Amendment 7 required striped bass caught on any unapproved method of take (e.g., caught on a J-hook with bait) must be returned to the water immediately without unnecessary injury. This provision, which is related to incidental catch, was previously a recommendation in Addendum VI to Amendment 6.

For stock rebuilding, Amendment 7 addressed the 2022 stock assessment and how it would inform efforts to meet the 2029 stock rebuilding deadline. Given concerns about recent low recruitment and the possibility of continued low recruitment, Amendment 7 required the 2022 stock assessment's rebuilding projections to use a low recruitment assumption to conservatively account for that future possibility. Amendment 7 also established a mechanism for the Board to respond more quickly to the 2022 assessment results if action was needed to achieve stock rebuilding by 2029.

All provisions of Amendment 7 were effective May 5, 2022 except for gear restrictions. States had to implement new gear restrictions by January 1, 2023. Amendment 7 also maintained the same recreational and commercial measures specified in Addendum VI to Amendment 6, which were implemented in 2020. As such, all approved Addendum VI conservation equivalency programs and state implementation plans are maintained until such measures are changed in the future.

### Addendum I to Amendment 7

Addendum I to Amendment 7 was approved in May 2023 to allow for voluntary ocean commercial quota transfers contingent on stock status. The addendum was developed to provide some, more immediate relief to states seeking a change to their commercial quota after the Board decided that changes to the commercial quota system would not be considered in the then ongoing development of Draft Amendment 7. When the stock is overfished, no quota transfers will be allowed. When the stock is not overfished, the Board can decide every one to two years whether it will allow voluntary transfers of ocean commercial quota. The Board can also set criteria for allowable transfers, including a limit on how much and when quota can be transferred in a given year, and the eligibility of a state to request a transfer based on its landings.

### 2023 Emergency Action

In May 2023, the Board approved an emergency action to change the recreational size limit, effective initially for 180 days from May 2, 2023 through October 28, 2023. This action responds to the extreme magnitude of 2022 recreational harvest, which was nearly double that of 2021, and new stock rebuilding projections, which estimate the probability of the spawning stock rebuilding to its biomass



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target by 2029 drops from 97% under the lower 2021 fishing mortality rate to less than 15% if the higher 2022 fishing mortality rate continues each year.

The Board implemented the emergency 31-inch maximum size limit to reduce harvest of the strong 2015-year class. The 31-inch maximum size limit applies to all existing recreational fishery regulations where a higher (or no) maximum size applies, excluding the May Chesapeake Bay trophy fisheries which already prohibit harvest of fish less than 35 inches. All bag limits, seasons, and gear restrictions will remain the same. As of July 2, 2023, all jurisdictions implemented regulations consistent with the required 31-inch maximum size limit.

In August 2023, the Board extended the emergency action through October 28, 2024 or until the implementation of Addendum II to Amendment 7 of the Interstate Fishery Management Plan, whichever comes first. The extension of the emergency action provided the Board time to develop and finalize Addendum II, which was approved in January 2024 with an implementation date of May 1, 2024. Therefore, Addendum II replaced the emergency action upon its implementation by the states by May 1, 2024.

### Addendum II to Amendment 7

Addendum II to Amendment 7 was approved in January 2024 to reduce fishing mortality in 2024 and support stock rebuilding. For the ocean recreational fishery, the Addendum implements a 28" to 31" slot limit, 1-fish bag limit, and maintains 2022 season dates for all fishery participants; this maintains the same ocean recreational measures adopted under the 2023 emergency action. For the Chesapeake Bay recreational fishery, the Addendum implements a 19" to 24" slot limit, 1-fish bag limit, and maintains 2022 season dates for all fishery participants. For the commercial fishery, the Addendum reduces commercial quotas by 7% in both the ocean and Chesapeake Bay.

To address concerns about recreational filleting allowances and compliance with recreational size limits, the Addendum establishes two requirements for states that authorize filleting of striped bass: racks must be retained and possession limited to no more than two fillets per legal fish. Finally, to enable an expedited response process to upcoming stock assessments, the Addendum establishes a mechanism allowing the Board to respond to a stock assessment via Board action if the stock is not projected to rebuild by 2029 with a probability greater than or equal to 50%. All Addendum II measures were required to be implemented by the states no later than May 1, 2024.

## **II. Status of the Stocks**

The biological reference points (BRPs) currently used for management are based on the 1995 estimate of female spawning stock biomass (SSB). The 1995 estimate of female SSB is used as the SSB threshold because many stock characteristics (such as an expanded age structure) were reached by this year and the stock was declared recovered. The SSB target is equal to 125% of SSB threshold.

The accepted model is a forward projecting statistical catch-at-age (SCA) model which uses catch-at-age data and fishery-dependent and -independent survey indices to estimate annual population size and fishing mortality (NEFSC 2019). Indices of abundance track relative changes in the population over

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time while catch data provide information on the scale of the population size. Age structure data (numbers of fish by age) provide additional information on recruitment (number of age-1 fish entering the population) and trends in mortality.

The most recent assessment for striped bass was an update completed in 2022 with data through 2021 (ASMFC 2022a). Prior to this, the 2018 Benchmark Stock Assessment had determined that striped bass were overfished and experiencing overfishing in the terminal year (2017) (NEFSC 2019). Following the implementation of new management measures in 2020, the 2022 Stock Assessment Update found that the stock was no longer experiencing overfishing in 2021 ( $F = 0.14$ , below the threshold of 0.20 and the target of 0.17) but remained overfished (Female SSB = 143 million pounds, below both the target of 235 million pounds and the threshold of 188 million pounds) (Figures 1 and 2). These reference points were calculated using the “low recruitment assumption” (per Amendment 7’s requirement under a tripped recruitment trigger), which resulted in a lower, more conservative  $F$  target and threshold compared to the 2018 benchmark assessment. Although below the threshold and considered overfished, female SSB in 2021 was still estimated to be more than three-times of that during the early 1980s, when the stock was considered collapsed (Figure 1).

The 2022 assessment also indicated a period of strong recruitment (numbers of age-1 fish entering the population) from 1994–2004, followed by a period of low recruitment from 2005–2011 (although not as low as the period of stock collapse in the early 1980s) (Figure 1). This period of low recruitment contributed to the decline in SSB that the stock has experienced since 2010. Recruitment of age-1 fish was high in 2012, 2015, 2016, and 2019 (corresponding to strong 2011, 2014, 2015, and 2018 year classes, respectively); however, estimates of age-1 striped bass were below the long-term average in 2018, 2020, and 2021. Recruitment in 2021 was estimated at 116 million age-1 fish, which is below the time series average of 136 million fish.

The 2022 assessment also included short-term projections to determine the probability of SSB being at or above the SSB target by 2029. These projections used the “low recruitment assumption”, which restricts the estimates of age-1 recruitment to those occurring during 2008–2021, rather than the longer time series of 1993–2021. These projections indicated that under the 2021 fishing mortality rate, there was a 97% probability the stock will be rebuilt by 2029.

However, concerns over high recreational removals in 2022 compared to 2021, the terminal year of the most recent assessment update, prompted the Board to request updated stock projections using 2022 preliminary removals. These estimates of preliminary 2022 removals and updated stock projections were presented to the Board in May 2023. These 2022 removals were used to estimate  $F$  in 2022. Since striped bass catch and  $F$  rates vary from year-to-year (even under the same regulations), the average  $F$  from 2019-2022 (excluding 2020 due to uncertainty associated with COVID-19 impacts) was applied to 2023-2029 in the new projections. Under this  $F$  rate, the new projections estimate the probability of rebuilding SSB to its target by 2029 drops from 97% to 15%.

It should be noted that these projections are not the same as a full stock assessment update where the model would be re-run to include the 2022 catch-at-age and index data. Accordingly, the status of the stock remains overfished but no longer experiencing overfishing as per the 2022 stock assessment

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update. The next stock assessment for striped bass is currently scheduled for 2024 (an update with data through 2023).

### III. Status of the Fishery in the Ocean and Chesapeake Bay

#### Total Removals

In 2023, total Atlantic striped bass removals (including commercial harvest, commercial dead discards, recreational harvest, and recreational release mortality) were estimated at 5.6 million fish, which is a 18% decrease from 2022 total removals (Table 3; Figure 5). This 2023 decrease was primarily driven by a decrease in recreational removals, with commercial removals at a similar level as 2022. In 2023, the commercial sector accounted for about 11% of total removals in numbers of fish (11% harvest and <1% dead discards), and the recreational sector accounted for 89% of removals in numbers of fish (47% harvest and 42% release mortality) (Table 4).

#### Commercial Fishery

The commercial fishery (ocean and Chesapeake Bay) harvested an estimated 4,217,756 million pounds (600,673 fish) in 2023, which is about the same level of harvest as 2022 (2% decrease by weight and 3% decrease in number of fish) (Tables 5-6).

The ocean region regularly underutilizes its cumulative quota due to lack of striped bass availability in some state waters (particularly North Carolina, which holds 13% of the ocean quota, yet has had zero ocean harvest since 2013) coupled with prohibitions on commercial striped bass fishing in Maine, New Hampshire, Connecticut, and New Jersey (which collectively share about 10% of the ocean commercial quota). The ocean commercial quota utilization was 74.5% in 2023, which was only a slight decrease from 77% quota utilization in 2022. In the ocean, each state that allows commercial harvest utilized 94-98% of their ocean quota in 2023, with the exception of North Carolina which had zero ocean harvest. Ocean quota utilization in 2022 and 2023 was still well above the low quota utilization in 2020 at 55%.

In the Chesapeake Bay, quota utilization was about the same in 2023 as it was in 2022 at about 84%. In the past five years, 2018-2019 were the highest quota utilization years at about 91-92% utilized, while 2020 was the lowest recent quota utilization at 76%.

Quota utilization is important to consider when calculating reductions in commercial removals. The projections for Addendum II assumed the same quota utilization rate as 2022 (i.e., a 7% quota reduction in 2024 would result in a 7% reduction in harvest). As quota utilization changes from year to year, the realized reduction in commercial removals will change.

The PRT notes there are several factors that contribute to changes in commercial harvest levels under the same quota levels from 2020-2023. Year class availability could be a factor, particularly in the ocean, with the relatively strong 2015-year class becoming more available to ocean fisheries in 2022 and 2023. If stock abundance is increasing overall, that could also contribute to more fish being available. Availability also depends on when and how long striped bass stay within state waters (vs. offshore in the EEZ) during the season. Another factor is the impacts of COVID-19 during 2020-2021,

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but those impacts likely varied among states, varied between 2020 and 2021, and varied depending on timing within the season.

Commercial harvest from Chesapeake Bay accounted for 59% of the 2023 total commercial harvest by weight. Of total commercial harvest (combined ocean and Chesapeake Bay) by weight, Maryland landed 33%, Virginia landed 22%, Massachusetts landed 16%, and New York landed 15% (Table 6; Figure 6). Additional harvest came from the Potomac River (9%), Delaware (3%), and Rhode Island (confidential). The proportion of commercial harvest coming from Chesapeake Bay is much higher in numbers of fish; roughly 83% in 2023 (Table 7). This is because fish harvested in Chesapeake Bay have a lower average weight than fish harvested in ocean fisheries. In 2023, coastwide commercial dead discards were estimated at 16,965<sup>6</sup> fish, which accounts for less than 1% of total removals in 2023 (Table 3).

From 2004-2014, coastwide commercial landings averaged 6.8 million pounds per year. From 2015-2019, commercial landings decreased to an average of 4.7 million pounds due to implementation of reduced quotas through Addendum IV. From 2020-2023, coastwide commercial landings decreased again to an average 4.1 million pounds due to further reduced quotas through Addendum VI to Amendment 6 and Amendment 7.

### Recreational Fishery

Total recreational removals (harvest and release mortality) coastwide was estimated at 4.9 million fish in 2023, which is a 19% decrease from recreational removals in 2022 (Table 3). This coastwide decrease of total recreational removals was a combination of a decrease in both harvest and live releases. By mode, combined private vessel/shore modes of the recreational striped bass fishery accounted for 94% of recreational removals in 2023, while for-hire components (charter and head boats) accounted for about 6%.

The vast majority of recreational striped bass catch (over 90%) is released alive either due to angler preference or regulation (i.e., closed season, undersized, or already caught the bag limit) (Figure 7). The stock assessment assumes, based on previous studies, that 9% of fish that are released alive die as a result of being caught. In 2023, recreational anglers caught and released an estimated 26.0 million fish, of which 2.3 million are assumed to have died (Table 8). This represents a 12% decrease in live releases coastwide from 2022.

Recreational harvest in 2023 decreased to 2.6 million fish (23.9 million pounds) from the 2022 level of 3.5 million fish (35.8 million pounds), which is a 24% decrease by number (Tables 9-10). The emergency action implemented in mid-2023, which established a maximum recreational size limit intended to reduce harvest of the 2015-year class, likely contributed to that decrease. However, it is important to note that change in effort and changes in fish availability can also impact harvest.

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<sup>6</sup> The entire time series for commercial dead discards was re-estimated as part of the 2024 stock assessment using a generalized additive model (GAM).

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Table 11 outlines recreational harvest by wave for 2022 and 2023. In the ocean region, harvest decreased in 2023 in Waves 3, 4, 5, and 6 with very large reductions in Wave 4 (59%) and Wave 5 (68%). This aligns with the fact that all states had implemented the emergency action by the start of Wave 4. In the Chesapeake Bay, harvest decreased in Waves 4 and 5 with a very large reduction in Wave 5 (74%). While Chesapeake Bay harvest increased by 81% in Wave 6, there was still an overall reduction in Chesapeake Bay harvest for the entire year.

New Jersey landed the largest proportion of recreational harvest in number of fish<sup>7</sup> (37%), followed by Maryland (19%), New York (19%), and Massachusetts (13%) (Table 10). The proportion of coastwide recreational harvest in numbers from Chesapeake Bay was estimated at 22% in 2023, which was similar to 2022 but lower than the prior ten year average (2012-2021) of 39% per year from the Chesapeake Bay. This decrease in the proportion of recreational harvest from the Chesapeake Bay, and therefore increased proportion of ocean recreational harvest, aligns with the availability of the strong 2015-year class in the ocean fishery in 2022 and 2023.

By region, both the ocean and Chesapeake Bay regions saw a decrease in recreational harvest in 2023 relative to 2022, with the ocean seeing a larger reduction of 26% and Bay seeing a 16% reduction in harvest (Table 10). For recreational live releases, the ocean saw a 14% reduction in 2023 and the Chesapeake Bay saw a slight increase of 2% (Table 8). The larger reduction in recreational harvest in the ocean could be attributed, at least partly, to the impact of the emergency action. The 31-inch maximum size limit implemented by the emergency action likely had more impact on ocean harvest by reducing the slot size range from seven inches to three inches. On the other hand, slot sizes in the Chesapeake Bay were still relatively large after implementing the maximum size of 31 inches, with slot sizes ranging from eleven inches to thirteen inches, as compared to the three-inch slot size in the ocean region. Additionally, most striped bass available in the Chesapeake Bay after the spring spawning run are smaller than 31 inches. However, it is important to note that changes in effort and fish availability can also impact harvest, in addition to management actions.

The number of trips directed at striped bass (primary and secondary target) also shows a larger reduction in the ocean as compared to the Bay (Table 14). In 2023, the number of striped bass directed trips in the ocean region decreased by about 13% relative to 2022, while the number of striped bass directed trips in the Chesapeake Bay stayed about the same in 2023 as in 2022 (<1% change). Overall, the total number of coastwide striped bass directed trips in 2023 decreased by 12% from 2022, but is still higher than the number of directed trips in 2020-2021.

When considering recreational harvest and directed trips by mode, the magnitude of change from 2022 to 2023 can differ between the for-hire modes and the private-shore modes by region. While private-shore harvest in 2023 decreased by about 25% in both the ocean and Chesapeake Bay (Table 13), for-hire harvest in the ocean decreased by 50% compared to for-hire harvest in the Chesapeake increasing by 19%. For directed trips, private-shore directed trips in 2023 decreased by about 13% in the ocean while staying about the same in the Chesapeake Bay (Table 15). For-hire directed trips in the

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<sup>7</sup> By weight, New Jersey had the largest proportion of recreational harvest (45%), followed by New York (22%), Massachusetts (13%), and Maryland (9%).

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ocean in 2023 decreased by about 27%, while for-hire directed trips in the Chesapeake Bay increased by about 8%. Again, these data indicate larger reductions in recreational harvest and directed trips in the ocean in 2023, as well as larger reductions in for-hire harvest and directed trips in the ocean in 2023.

Overall, the PRT notes there are several factors that contribute to trends in recreational catch and effort, including management measures, year class availability, overall stock abundance, nearshore availability of bait and striped bass, and angler behavior. The relatively strong 2015-year class moving into the ocean and becoming available to the ocean slot (i.e., those 2015-year class fish surpassing 28-inches), is likely the primary driver of increased ocean recreational catch in 2022. The following emergency action in 2023 intended to reduce harvest of the 2015-year class likely contributed to the harvest reduction observed in 2023. Angler effort and behavior are also important to consider. When more fish are available in the fishery, effort can often increase in response. When narrower size limits are in place, anglers may change their behavior and level of effort.

#### IV. Albemarle Sound and Roanoke River Management Area

While striped bass in North Carolina’s ocean waters are managed under the Interstate FMP, the Interstate FMP formally defers management of the Albemarle Sound-Roanoke River (A-R) stock to the state of North Carolina using A-R stock-specific BRPs approved by the Board (NCDMF 2013, 2014). North Carolina is required to inform the Commission of changes to striped bass management in the A-R System.

##### Status of the Albemarle Sound-Roanoke River Striped Bass Stock

The most recent A-R stock assessment, the 2022 Stock Assessment Update, uses a forward-projecting fully-integrated, age-structured statistical model estimating population parameters and reference points for the A-R striped bass stock for 1991-2021 (Lee et al. 2022). The 2022 stock assessment is an update of the 2020 Benchmark Stock Assessment (Lee et al. 2020). The 2020 benchmark stock assessment model was peer reviewed by an outside panel of experts and approved for management use by the Board in May 2021. The 2022 assessment update was also peer reviewed in January 2023.

The A-R stock is managed using reference points for female spawning stock biomass (SSB) and fishing mortality ( $F$ ) with threshold values based on 35% spawning potential ratio and target values based on 45% spawning potential ratio. The 2022 assessment estimated female SSB in 2021 (terminal year) was 16.1 metric tons, which is below the SSB threshold of 125 metric tons. The assessment estimated  $F$  in 2021 was 0.77, which is above the  $F$  threshold of 0.22. These results indicate the stock is overfished and overfishing is occurring (Figures 3-4). Abundance indices indicate continued stock decline, and juvenile recruitment, in particular, has been very low for several consecutive years.

	<b>Target</b>	<b>Threshold</b>	<b>Terminal Year (2021) Estimate</b>
<b>Female SSB</b>	164 metric tons	125 metric tons	16 metric tons
<b>Fishing Mortality (<math>F</math>)</b>	0.14	0.20	0.77

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### NC Estuarine Striped Bass Fishery Management Plan

Estuarine striped bass in North Carolina are currently managed under Amendment 2 to the North Carolina Estuarine Striped Bass Fishery Management Plan (FMP) and its subsequent revision and recent supplement (NCDMF 2022, 2024). The plan is jointly developed between the North Carolina Marine Fisheries Commission (NCMFC) and the North Carolina Wildlife Resources Commission (NCWRC). Amendment 2, adopted in 2022, lays out separate management strategies for the A-R stock and the estuarine (non-migratory) Central and Southern striped bass stocks in the Tar-Pamlico, Neuse, and Cape Fear rivers. Management programs in Amendment 2 for the A-R stock utilize annual total allowable landings (TAL), daily possession limits, open and closed harvest seasons, gill net mesh size and yardage restrictions, seasonal small mesh gill net attendance requirements, single barbless hook requirements in some areas, minimum size limits, and a no-harvest slot limit in the Roanoke River to maintain a sustainable harvest and reduce regulatory discard mortality in all sectors.

Amendment 2 to the North Carolina Estuarine Striped Bass FMP was adopted in November 2022 and maintains for the A-R stock the use of a TAL to manage harvest as informed by stock assessments, and requires pound for pound payback for any overages. The Roanoke River Management Area continues to have a 18-22" harvest slot limit, and the Albemarle Sound Management Area has a new 18-25" harvest slot limit to protect larger striped bass. Single barbless hooks are still required in the Roanoke River from April-June, and a new requirement to use non-offset barbless circle hooks when fishing with bait in the inland Roanoke River waters is in place from May-June. Adaptive management continues to allow for adjustments to the TAL, bag limits, seasons, and gear.

Based on the results of the 2022 stock assessment, the resulting total allowable landings (TAL) level needed to reduce fishing mortality to its target is effectively too low to manage. For this reason and due to continued concern about stock decline and low recruitment, North Carolina implemented a harvest moratorium in the Albemarle Sound and Roanoke River Management Areas (ASMA and RRMA) effective January 2024 via the adaptive management framework under Amendment 2 of the NC Estuarine Striped Bass FMP (NCDMF 2024). In addition, the 2023 fall recreational and commercial seasons in the Albemarle Sound did not open because there is little quota remaining and because of stock status concerns.

### Albemarle Sound and Roanoke River Atlantic Striped Bass Fisheries

In 2023, commercial harvest in the ASMA was 20,181 pounds (4,322 fish). There is no commercial harvest in the RRMA. Recreational harvest in the ASMA was 10,249 pounds (2,101 fish), and recreational harvest in the RRMA was 9,477 pounds (2,778 fish). Note the 2023 fall recreational and commercial seasons in the ASMA did not open.

## **V. Status of Research and Monitoring**

Amendment 7 (approved May 2022) set the regulatory and monitoring measures for the coastwide striped bass fishery for 2023. Amendment 7 requires certain states to implement fishery-dependent monitoring programs for striped bass. All states with commercial fisheries or substantial recreational

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fisheries are required to define the catch and effort composition of these fisheries. Additionally, all states with a commercial fishery must implement a commercial harvest tagging program.

Amendment 7 also require certain states to monitor the striped bass population independent of the fisheries. Juvenile abundance surveys are required from Maine (Kennebec River), New York (Hudson River), New Jersey (Delaware River), Maryland (Chesapeake Bay tributaries), Virginia (Chesapeake Bay tributaries), and North Carolina (Albemarle Sound). Spawning stock sampling is mandatory for New York (Hudson River), Pennsylvania (Delaware River), Delaware (Delaware River), Maryland (Upper Chesapeake Bay and Potomac River), Virginia (Rappahannock River and James River), and North Carolina (Albemarle Sound-Roanoke River). NOAA Fisheries, USFWS, Massachusetts, New York, New Jersey, Maryland, Virginia, and North Carolina are also required to continue their tagging programs, which provide data used to determine survivorship and migration patterns.

### VI. Status of Management Measures and Issues

#### Ocean Commercial Quota

In 2023, the ocean commercial quota was 2.3 million pounds and was not exceeded. Two states (Massachusetts and Rhode Island) decreased their quotas in 2023 to account for overages in 2022. Table 16 outlines 2023 quotas and harvest.

#### Chesapeake Bay Commercial Quota

In 2023, the Chesapeake Bay-wide quota was 3.0 million pounds and was allocated to Maryland, the PRFC, and Virginia based on historical harvest per their mutual agreement. In 2023, the Bay-wide quota was not exceeded. Table 16 outlines 2023 quotas and harvest.

#### Chesapeake Bay Spring Harvest of Migrant Striped Bass

Historically, recreational fishermen in Chesapeake Bay are permitted to take adult migrant fish during a limited seasonal fishery, commonly referred to as the Spring Trophy Fishery. From 1993 to 2007 the fishery operated under a quota. Beginning in 2008, the Board approved non-quota management until stock assessment indicates that corrective action is necessary to reduce *F* on the coastal stock. Through 2023, the Spring Trophy Fishery was managed via bag limits and minimum sizes and Maryland and the Potomac River. The Commonwealth of Virginia closed the spring trophy season beginning in 2019, and Maryland and the Potomac River Fisheries Commission closed the spring trophy season beginning in 2024.

The 2023 estimate of migrant fish harvested during the Maryland trophy season from May 1-May 15 was 577 fish (150 by charter vessels; 427 fish by private vessels).

For the entire time period of May 1 through June 15, 2023 when migrant fish were available to the Chesapeake Bay fisheries, a total of 972 migrant fish were harvested in Maryland (253 fish by charter vessels; 719 fish by private vessels), which is a 65% decrease compared to 2022 and well below the 2006-2023 average of 31,292 fish.



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### Wave-1 Recreational Harvest Estimates

Evidence suggests that North Carolina, Virginia, and possibly other states have had sizeable wave-1 (January/February) recreational striped bass fisheries beginning in 1996 (NEFSC 2018b). MRIP, formerly the Marine Recreational Fisheries Statistics Survey (MRFSS), has sampled for striped bass in North Carolina during wave-1 since 2004 (other states are not currently covered during wave-1). Virginia harvest in wave-1 is estimated for stock assessment via the ratio of landings and tag returns in wave-6 and regression analysis (refer to the methods described in NEFSC 2018a for more detail).

However, based on fishery-independent data collected by NCDMF, ASMFC and USFWS, striped bass distributions on their overwintering grounds during December through February has changed significantly since the mid-2000s. The migratory portion of the stocks has been well offshore in the EEZ (>3 miles) affecting both Virginia's and North Carolina's striped bass winter ocean fisheries in recent years. Furthermore, North Carolina has reported zero recreational striped bass harvest during wave-1 and wave-6 in the ocean for 2012-2023, and Virginia has reported zero recreational ocean harvest for nine of the last ten years. Similarly, North Carolina's commercial fishery has reported zero striped bass landings from the ocean since 2013.

### Amendment 7 Commercial Fish Tagging Program

Section 3.1.1 of Amendment 7 includes compliance requirements for monitoring commercial fishery harvest tagging programs, which have been required through the FMP since 2013. In 2023, all states implemented commercial tagging programs consistent with the tagging program requirements. Table 17 describes commercial tagging programs by state.

The PRT emphasizes the importance of tag accounting to account for unused tags at the end of each fishing year in all states. Due to the early deadlines for commercial tagging reports (60 days before the commercial fishery opens), tag accounting for the previous year is often preliminary or not yet available at that time. To address this, the PRT reiterates the importance of states reporting all tag accounting results in their annual state compliance reports (i.e., tags issued, tags used, tags returned, tags missing/broken/not accounted for). The PRT recommends that Commission staff work with the Law Enforcement Committee and the PRT to regularly follow-up with all states on tag accounting and other questions about state commercial tagging programs as needed. Additionally, the PRT recommends the Board task the PRT with a specific review of the commercial tagging program in the near-term to review the program components, such as the biological metrics used to allocate tags, since it has been ten years since the tagging program was implemented.

### Amendment 7 Recreational Gear Requirements

All states have implemented the required circle hook regulations first required through Addendum VI to Amendment 6. The PRT notes differences among the definitions of bait implemented by the states (see FMP Review for 2021 Fishing Year) with some definitions being more restrictive than the Board-approved definition. A few states have not defined bait, which could be considered more restrictive (per Commission standards, states can implement more restrictive measures). Additionally, some state regulations are more restrictive by not specifying any exemptions, as compared to the Board-approved exemption for bait on artificial lures.

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Amendment 7 includes two additional recreational gear requirements required to be implemented by January 1, 2023 regarding gaffing and incidental catch:

- It shall be unlawful for any person to gaff or attempt to gaff any striped bass at any time when fishing recreationally.
- Striped bass caught on any unapproved method of take must be returned to the water immediately without unnecessary injury.

As discussed in last year's 2023 FMP Review, the PRT notes that all states have prohibited gaffing, except for the District of Columbia (DC) which does not specifically prohibit gaffing, but notes that gaffing is not listed as a legal gear in DC. For the incidental catch requirement, many states have implemented the provision as written (or nearly as written) in Amendment 7, but some states have referred to alternative regulatory language to meet the requirement (Table 19). Most alternative language notes that anglers can only take or catch striped bass via methods/gear that are legally allowed in that state's regulations.

### 2023 Emergency Action

All states implemented the 31-inch maximum size limit for recreational fisheries (excluding the Chesapeake Bay trophy fisheries) required under the 2023 Emergency Action by the implementation deadline of July 2, 2023. The effective dates for the emergency action size limit are listed in Table 12. Most states implemented the emergency action in mid-late May, which is the middle of MRIP Wave 3 (May/June). Three states implemented the emergency action near the end of Wave 3 or beginning of Wave 4 (New York June 20; Virginia July 1; New Jersey July 2).

### Juvenile Abundance Index Analysis

The following states are required to conduct striped bass young-of-year juvenile abundance index (JAI) surveys on an annual basis: Maine for the Kennebec River; New York for the Hudson River; New Jersey for the Delaware River; Maryland for the Maryland Chesapeake Bay tributaries; Virginia for the Virginia Chesapeake Bay tributaries; and North Carolina for the A-R stock.

The PRT and the Striped Bass Technical Committee (TC) annually review the JAIs per the recruitment trigger specified in the FMP. As of May 2022, the new Amendment 7 recruitment trigger is effective and reads as follows:

If any of the four JAIs used in the stock assessment model to estimate recruitment (NY, NJ, MD, VA) shows an index value that is below 75% of all values (i.e., below the 25th percentile) in the respective JAI from 1992-2006\* (which represents a period of high recruitment) for three consecutive years, then an interim F target and interim F threshold calculated using the low recruitment assumption will be implemented, and the F-based management triggers will be reevaluated using those interim reference points. If an F-based trigger is tripped upon reevaluation, the striped bass management program must be adjusted to reduce F to the interim F target within one year.

The 2024 review of JAIs evaluates the 2021, 2022, and 2023 JAI values per the Amendment 7 recruitment trigger. Three states (New Jersey, Maryland, and Virginia) met the criteria of the Amendment 7 recruitment trigger (Figure 8). Maryland's JAI values for 2021 (1.65), 2022 (1.78), and

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2023 (0.57) were below the Maryland JAI trigger level of 4.16. New Jersey's (Delaware River) JAI values for 2021 (0.67), 2022 (0.77), and 2023 (0.26) were below its trigger level of 1.07. Virginia's JAI values in 2021 (6.3), 2022 (7.95), and 2023 (4.26) were below its trigger level of 8.22. These states trip the recruitment trigger in 2024, requiring *F* reference points using the low recruitment assumption to be calculated, which will occur during the 2024 stock assessment update. The reference points from the 2022 stock assessment update also used the low recruitment assumption.

While New York's JAI (Hudson River) was above its trigger level of 11.70 in 2021 and 2022, the JAI dropped to 4.04 in 2023, which is the lowest value in the time series since 1985.

Maine's JAI (Kennebec River) and North Carolina's JAI (Albemarle-Roanoke) are not part of the recruitment trigger, but are still required monitoring for those states (Figure 9). Maine's JAI has been below its recruitment failure since 2019, and North Carolina's JAI has been below its recruitment failure level since 2018.

### Law Enforcement Reporting

States are asked to report any law enforcement issues that occurred the previous season in annual compliance reports. The most common violations noted in state compliance reports were over the daily bag limit and undersize fish. Two states noted enforcement challenges with the mid-season slot size change.

## VII. Plan Review Team Comments and Recommendations

A summary of 2023 fishery regulations by state is provided in Table 1 and Table 2. Each state's commercial tag monitoring program is described in Table 17 and state compliance with fishery-independent and fishery-dependent monitoring requirements are summarized in Table 18.

**Based on annual state compliance reports (ASMFC 2024), the PRT determined that all states in 2023 implemented a management and monitoring program consistent with the provisions of Amendment 7 and the 2023 Emergency Action.**

The PRT had previously noted differences in regulatory language for the Amendment 7 gear restrictions. All states have prohibited gaffing, except for the District of Columbia (DC) which does not specifically prohibit gaffing, but notes that gaffing is not listed as a legal gear in DC. For the incidental catch requirement, many states have implemented the provision as written (or nearly as written) in Amendment 7, but some states have referred to alternative regulatory language to meet the requirement (Table 19). Most alternative language notes that anglers can only take or catch striped bass via methods/gear that are legally allowed in that state's regulations. The Board did not express any concern with alternative language during discussion of last year's 2023 FMP Review.

The PRT developed the following recommendations:

- The PRT reiterates the importance of states reporting all tag accounting results in their annual state compliance reports (i.e., tags issued, tags used, tags returned, tags missing/broken/not accounted for). The PRT recommends that Commission staff work with the Law Enforcement

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Committee and the PRT to regularly follow-up with all states on tag accounting and other questions about state commercial tagging programs as needed.

- The PRT recommends the Board task the PRT with a specific review of the commercial tagging program in the near-term to review the program components, such as the biological metrics used to allocate tags, since it has been over ten years since the tagging program was implemented. This review is not necessarily intended to change the program requirements through the FMP, but instead intended to review how the programs are operating and identify issues that states have experienced and how those issues were resolved. This review could include input from the Law Enforcement Committee, including how to streamline state reporting on the tagging program. Some information in the current state tagging reports (e.g., tag color) is intended to inform law enforcement, while other information (e.g., tag accounting) would be more appropriate for the PRT to review during the annual compliance review.

The PRT notes the following **additional comments**:

- While the New York spawning stock monitoring program in the Hudson River does meet the FMP's fishery-independent monitoring requirements, it does not provide an index of relative abundance to characterize the Hudson River stock which was identified as a high priority research recommendation at SAW 66.

### **VIII. Research Recommendations**

Research recommendations were developed by the 2018 Benchmark Stock Assessment Subcommittee and the 66<sup>th</sup> SARC and are listed in the final [stock assessment report](#) starting on report page 569 (NEFSC 2019).

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### IX. References

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**X. Tables**

Table 1. Summary of Atlantic striped bass commercial regulations in 2023. Source: 2024 State Compliance Reports. Minimum sizes and slot size limits are in total length (TL). \*Commercial quota reallocated to recreational bonus fish program.

<b>STATE</b>	<b>SIZE LIMITS (TL) and TRIP LIMITS</b>	<b>SEASONAL QUOTA</b>	<b>OPEN SEASON</b>
<b>ME</b>	Commercial fishing prohibited		
<b>NH</b>	Commercial fishing prohibited		
<b>MA</b>	≥35" minimum size; no gaffing undersized fish. 15 fish/day with commercial boat permit; 2 fish/day with rod and reel permit.	700,379 lbs. (adjusted quota for 2022 overage). Hook & Line only.	6.16-11.15 (or when quota reached); open fishing days of Monday, Tuesday and Wednesday, with Thursday and Friday added on October 1 (if quota remains). Closed 7.7, 7.4, Labor Day. Cape Cod Canal closed to commercial striped bass fishing.
<b>RI</b>	Floating fish trap: 26" minimum size unlimited possession limit until 70% of quota reached, then 500 lbs. per licensee per day	GC: 81,671 (adjusted quota for 2022 overage); FFT: Conf adjusted quota for 2022 overage	4.1 – 12.31
	General category (mostly rod & reel): 34" min. 5 fish/vessel/day limit.		5.29-7.5; 7.6-12.31, or until quota reached. Closed Thursdays, Fridays, Saturdays, and Sundays during 7.6-12.31
<b>CT</b>	Commercial fishing prohibited; bonus program in CT suspended indefinitely in 2020.		
<b>NY</b>	26"-38" size; (Hudson River closed to commercial harvest)	640,718 lbs. Pound Nets, Gill Nets (6-8" stretched mesh), Hook & Line.	5.15 – 12.15, or until quota reached. Limited entry permit only.
<b>NJ*</b>	Commercial fishing prohibited; bonus program: 1 fish/permit at 24" to <28"	215,912 lbs.	5.15 – 12.31 (permit required)
<b>PA</b>	Commercial fishing prohibited		
<b>DE</b>	Gill Net: 20" min in DE Bay/River during spring season. 28" in all other waters/seasons.	Gillnet: 135,350 lbs. No fixed nets in DE River.	Gillnet: 2.15-5.31 (2.15-3.30 for Nanticoke River) & 11.15-12.31; drift nets only 2.15-28 & 5.1-31; no trip limit.
	Hook and Line: 28" min	Hook and line: 7,124 lbs.	Hook and Line: 4.1–12.31, 200 lbs./day trip limit

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(Table 1 continued – Summary of commercial regulations in 2023).

<b>STATE</b>	<b>SIZE LIMITS (TL) and TRIP LIMITS</b>	<b>SEASONAL QUOTA</b>	<b>OPEN SEASON</b>
<b>MD</b>	Chesapeake Bay and Rivers: 18–36” Common pool trip limits: Hook and Line - 250 lbs./license/week Gill Net - 300 lbs./license/week	1,445,394 lbs. (part of Bay-wide quota)	Bay Pound Net: 6.1-12.31 Bay Haul Seine: 1.1-2.28; 6.1-12.31 Bay Hook & Line: 6.1-12.31, select days only Bay Drift Gill Net: 1.1-2.28, 12.1-12.31; select days only
	Ocean: 24” minimum	Ocean: 89,094 lbs.	1.1-5.31, 10.1-12.31
<b>PRFC</b>	18” min all year; 36” max 2.15–3.25	572,861 lbs. (split between gear types; part of Bay-wide quota)	Hook & Line: 1.1-3.25, 6.1-12.31 Pound Net & Other: 2.15-3.25, 6.1-12.15 <u>Gill Net</u> : 11.7.2022-3.25.2023 Misc. Gear: 2.15-3.25, 6.1-12.15
<b>VA</b>	Chesapeake Bay and Rivers: 18” min; 28” max size limit 3.15–6.15	983,393 lbs. (part of Bay-wide quota)	1.16-12.31
	Ocean: 28” min	125,034 lbs.	
<b>NC</b>	Ocean: 28” min	295,495 lbs. (split between gear types)	Seine fishery was not opened Gill net fishery was not opened Trawl fishery was not opened

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Table 2. Summary of Atlantic striped bass recreational regulations in 2023. Source: 2024 State Compliance Reports. Minimum sizes and slot size limits are in total length (TL).

STATE	SIZE LIMITS (TL)/REGION	BAG LIMIT	GEAR/FISHING RESTRICTIONS	OPEN SEASON
<b>ME</b>	28" to <35"; Effective 5.18: 28" to 31"	1 fish/day	Hook and line only and no gaffing of striped bass. Regulations define bait as it pertains to the required use of circle hooks; immediate release w/o unnecessary injury if incidentally caught on unapproved hook type; maintains the circle hook exemption for rubber and latex tube rigs.	All year, except spawning areas are closed 12.1-4.30 and C&R only 5.1-6.30
<b>NH</b>	28" to <35"; Effective 5.26: 28" to <31"	1 fish/day	Gaffing and culling prohibited; Use of corrodible non-offset circle hooks required if angling with bait. If taken contrary to restrictions, return fish to water immediately w/o unnecessary injury.	All year
<b>MA</b>	28" to <35"; Effective 5.26: 28" to <31"	1 fish/day	Hook & line only; no high-grading; gaffs and other injurious removal devices prohibited. Inline circle hook requirement when fishing with bait, except with artificial lures; mandatory release of catch on any unapproved method of take. No filleting at-sea except aboard for-hire vessels provided skin remains and ratio of 2 filets/fish.	All year
<b>RI</b>	28" to <35"; Effective 5.27: 28" to <31"	1 fish/day	Circle required while fishing recreationally with bait for striped bass (except for artificial lures with bait attached); must release if caught on unapproved method of take	All year
<b>CT</b>	28" to <35"; Effective 5.26: 28" to <31"	1 fish/day	Inline circle hooks only when using whole, cut or live natural bait. Exemption of artificial lures/ release of incidental noncircle hook provision. Spearing and gaffing prohibited. If taken contrary to the provisions, shall, without avoidable injury, be returned immediately to the waters.	All year
<b>NY</b>	Ocean and DE River: 28" - 35", Effective 6.20: 28" - 31"	1 fish/day	Angling only. Spearing permitted in ocean waters. C&R only during closed season, except no targeting in Hudson River during closed season. Circle hook requirements. No gaffing. Mandatory release of catch on any unapproved method of take.	Ocean: 4.15-12.15 Delaware River: All year
	HR: 18 - 28"	1 fish/day		Hudson River: 4.1-11.30



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(Table 2 continued – Summary of recreational regulations in 2023).

STATE	SIZE LIMITS/REGION	BAG LIMIT	GEAR/FISHING RESTRICTIONS	OPEN SEASON
<b>NJ</b>	28" to <38"; Effective 7.2: 28" to 31"	1 fish/day	Circle hooks required when fishing with bait; must release if caught on unapproved method of take. Gaffing prohibited.	Closed 1.1 – Feb 28 in all waters except in the Atlantic Ocean, and closed 4.1-5.31 in the lower DE River and tribs
<b>PA</b>	Upstream from Calhoun St Bridge: 1 fish/day at 28" to <35"; Effective 6.3: size limit 28" to <31"	1 fish/day	Unlawful to take or attempt to take fish unless the method is specifically authorized. Circle hooks required when fishing with bait downstream from Calhoun St. Bridge.	All year
	Downstream from Calhoun St Bridge: 1 fish/day at 28" to <35" (except 4.1-5.31); Effective 6.3: size limit 28" to <31"			All year. 2 fish/day at 21"- <24" slot from 4.1 – 5.31
<b>DE</b>	28" to <35" Effective 5.21: 28" to 31"	1 fish/day	Hook & line, spear (for divers) only. Inline circle hooks required when fishing for striped bass using cut or whole natural baits	All year. C&R only 4.1-5.31 in spawning grounds. 20"-25" slot 7.1-8.31 in DE River, Bay/tribs
<b>MD</b>	Ocean: 28" to <35" Effective 5.16: 28" to 31"	1 fish/day	Circle hooks if chumming, live-lining, or bait fishing and targeting striped bass; no gaffing	All year
	Chesapeake Bay and tribs^	C&R only	Circle hook requirement with bait; no eels; no stinger hooks; barbless hooks when trolling; max 6 lines when trolling; no gaffing	1.1-2.28, 3.1-3.31, 12.11-12.31
	Chesapeake Bay: 35" min	1 fish/day	Geographic restrictions apply; Circle hook requirement with bait; no eels bait; no gaffs	5.1-5.15
	Chesapeake Bay: 1 fish/day, 19" to 31"; 2/fish/day for charter with only 1 fish >28"		Geographic restrictions apply; circle hooks if chumming, livelining, or bait fishing and targeting striped bass; no gaffing	5.16-5.31
	Chesapeake Bay and tribs: 1 fish/day, 19" to 31"; 2/fish/day for charter with only 1 fish >28"		All Bay and tribs open; circle hooks if chumming, livelining, or bait fishing and targeting striped bass; no gaffing	6.1-7.15, 8.1-12.10

^ Susquehanna Flats: C&R only Jan 1 – March 31 (circle hooks when bait fishing); 1 fish at 19"-26" slot May 16 – May 31 (circle hooks if chumming, livelining, or bait fishing and targeting striped bass).

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(Table 2 continued – Summary of recreational regulations in 2023).

STATE	SIZE LIMITS/REGION	BAG LIMIT	GEAR/FISHING RESTRICTIONS	OPEN SEASON
PRFC	Spring Trophy: 35" minimum size	1 fish/day	No more than two hooks or sets of hooks for each rod or line; no live eel; no high-grading; non-offset Circle Hooks are required when fishing for striped bass using cut or whole natural bait; no spearing or gaffing	5.1-5.15
	Summer & Fall: 20" to 31"	2 fish/day	No more than two hooks or sets of hooks for each rod or line; non-offset Circle Hooks are required when fishing for striped bass using cut or whole natural bait; no spearing or gaffing; any fish caught other than lawful fishing activities immediately released	5.16-7.6 and 8.21-12.31; closed 7.7-8.20 (No Direct Targeting)
DC	18" to <31"	1 fish/day	Hook and line only; unlawful to take fish except as specified	5.16-12.31
VA	Ocean: 28" to 36" Effective 7.1: 28" to 31"	1 fish/day	Hook & line, rod & reel, hand line, spearing only. No gaffing. Circle hooks required if/when using live bait. Unlawful to take/attempt take by any other gear/method	1.1-3.31, 5.16-12.31
	Ocean Spring Trophy: NO SPRING TROPHY SEASON			
	Chesapeake Bay Spring Trophy: NO SPRING TROPHY SEASON			
	Bay Spring/Summer: 20" to 28"	1 fish/day	Hook & line, rod & reel, hand line, spearing only. No gaffing. Circle hooks required if/when using live bait. Unlawful to take/attempt take by any other gear/method	5.16-6.15
	Bay Fall: 20" to 31"	1 fish/day		10.4-12.31
NC	28" to <35"; Effective 6.1: 28" to <31"	1 fish/day	No gaffing allowed. Circle hooks required when fishing with natural bait	All year

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Table 3. Total removals (harvest plus discards/release mortality) of Atlantic striped bass by sector in numbers of fish, 1997-2023 calendar years. Note: Harvest is from state compliance reports/MRIP (June 2024), discards/release mortality is from ASMFC. Estimates exclude inshore harvest from NC.

Year	Commercial		Recreational		Total Removals
	Harvest	Dead Discards*	Harvest	Release Mortality	
1997	1,076,561	333,142	2,774,981	2,969,781	7,154,466
1998	1,215,219	359,876	2,915,390	3,259,133	7,749,618
1999	1,223,572	348,807	3,123,496	3,140,905	7,836,779
2000	1,216,812	213,504	3,802,477	3,044,203	8,276,995
2001	931,412	182,703	4,052,474	2,449,599	7,616,188
2002	928,085	198,124	4,005,084	2,792,200	7,923,493
2003	854,326	129,223	4,781,402	2,848,445	8,613,396
2004	879,768	154,995	4,553,027	3,665,234	9,253,023
2005	970,403	147,004	4,480,802	3,441,928	9,040,137
2006	1,047,648	159,914	4,883,961	4,812,332	10,903,855
2007	1,015,114	158,718	3,944,679	2,944,253	8,062,765
2008	1,027,824	105,275	4,381,186	2,391,200	7,905,484
2009	1,050,055	131,583	4,700,222	1,942,061	7,823,921
2010	1,031,448	133,375	5,388,440	1,760,759	8,314,022
2011	944,777	82,175	5,006,358	1,482,029	7,515,339
2012	870,684	199,927	4,046,299	1,847,880	6,964,790
2013	784,379	116,919	5,157,760	2,393,425	8,452,483
2014	750,263	114,049	4,033,746	2,172,342	7,070,400
2015	621,952	84,840	3,085,725	2,307,133	6,099,651
2016	609,028	92,260	3,500,434	2,981,430	7,183,151
2017	592,670	100,349	2,937,911	3,421,110	7,052,041
2018	615,649	100,491	2,244,765	2,826,667	5,787,571
2019	652,777	84,827	2,150,936	2,589,045	5,477,585
2020	581,249	60,363	1,709,973	2,760,231	5,111,816
2021	644,204	89,484	1,841,902	2,583,788	5,159,378
2022	622,335	44,624	3,454,021	2,667,846	6,788,826
2023	600,673	16,965	2,624,429	2,343,556	5,585,623

\*The entire time series for commercial dead discards was re-estimated as part of the 2024 stock assessment using a generalized additive model (GAM).

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Table 4. Proportion of total removals (harvest plus discards/release mortality) of Atlantic striped bass by sector in numbers of fish, 1997-2023. Note: Harvest is from state compliance reports/MRIP (June 2024), discards/release mortality is from ASMFC. Estimates exclude inshore harvest from NC.

Year	Commercial		Recreational	
	Harvest	Dead Discards*	Harvest	Release Mortality
1997	15%	5%	39%	42%
1998	16%	5%	38%	42%
1999	16%	4%	40%	40%
2000	15%	3%	46%	37%
2001	12%	2%	53%	32%
2002	12%	3%	51%	35%
2003	10%	2%	56%	33%
2004	10%	2%	49%	40%
2005	11%	2%	50%	38%
2006	10%	1%	45%	44%
2007	13%	2%	49%	37%
2008	13%	1%	55%	30%
2009	13%	2%	60%	25%
2010	12%	2%	65%	21%
2011	13%	1%	67%	20%
2012	13%	3%	58%	27%
2013	9%	1%	61%	28%
2014	11%	2%	57%	31%
2015	10%	1%	51%	38%
2016	8%	1%	49%	42%
2017	8%	1%	42%	49%
2018	11%	2%	39%	49%
2019	12%	2%	39%	47%
2020	11%	1%	33%	54%
2021	12%	2%	36%	50%
2022	9%	1%	51%	39%
2023	11%	0.3%	47%	42%

\* The entire time series for commercial dead discards was re-estimated as part of the 2024 stock assessment using a generalized additive model (GAM). Note: Percent may not sum to 100 due to rounding.

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Table 5. Total harvest of Atlantic striped bass by sector, 1997-2023 calendar years. Note: Harvest is from state compliance reports/MRIP (Query June 2024). Estimates exclude inshore harvest from North Carolina.

Year	Numbers of Fish			Pounds		
	Commercial	Recreational	Total	Commercial	Recreational	Total
1997	1,076,561	2,774,981	3,851,542	6,078,566	30,616,093	36,694,659
1998	1,215,219	2,915,390	4,130,609	6,551,623	29,603,199	36,154,822
1999	1,223,572	3,123,496	4,347,068	6,485,079	33,564,988	40,050,067
2000	1,216,812	3,802,477	5,019,289	6,715,044	34,050,817	40,765,861
2001	931,412	4,052,474	4,983,886	6,266,953	39,263,154	45,530,107
2002	928,085	4,005,084	4,933,169	6,152,583	41,840,025	47,992,608
2003	854,326	4,781,402	5,635,728	6,750,799	54,091,836	60,842,635
2004	879,768	4,553,027	5,432,795	7,340,822	53,031,074	60,371,896
2005	970,403	4,480,802	5,451,205	7,120,647	57,421,174	64,541,821
2006	1,047,648	4,883,961	5,931,609	6,780,541	50,674,431	57,454,972
2007	1,015,114	3,944,679	4,959,793	7,047,179	42,823,614	49,870,793
2008	1,027,824	4,381,186	5,409,010	7,190,800	56,665,318	63,856,118
2009	1,050,055	4,700,222	5,750,277	7,217,484	54,411,389	61,628,873
2010	1,031,448	5,388,440	6,419,888	6,996,713	61,431,360	68,428,073
2011	944,777	5,006,358	5,951,135	6,789,792	59,592,092	66,381,884
2012	870,684	4,046,299	4,916,983	6,516,761	53,256,619	59,773,380
2013	784,379	5,157,760	5,942,139	5,819,678	65,057,289	70,876,967
2014	750,263	4,033,746	4,784,009	5,937,949	47,948,610	53,886,559
2015	621,952	3,085,725	3,707,677	4,829,997	39,898,799	44,728,796
2016	609,028	3,500,434	4,109,462	4,848,772	43,671,532	48,520,304
2017	592,670	2,937,911	3,530,581	4,816,395	37,952,581	42,768,976
2018	615,649	2,244,765	2,860,414	4,795,679	23,069,028	27,864,707
2019	652,777	2,150,936	2,803,713	4,253,196	23,556,287	27,809,483
2020	581,249	1,709,973	2,291,222	3,607,681	14,858,984	18,466,665
2021	644,204	1,841,902	2,486,106	4,306,781	15,781,510	20,088,291
2022	622,335	3,454,021	4,076,356	4,317,814	35,805,246	40,123,060
2023	600,673	2,624,429	3,225,102	4,217,756	23,937,530	28,155,286

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Table 6. Commercial harvest by region in pounds (x1000), 1997-2023 calendar years. Source: State compliance reports.

^Estimates exclude inshore harvest.

Year	Ocean								Chesapeake Bay				Grand Total
	MA	RI	NY	DE	MD	VA	NC^	Total	MD	PRFC	VA	Total	
1997	784.9	96.5	460.8	166.0	94.0	179.1	463.1	2,244.4	2,119.2	731.9	983.0	3,834.2	6,078.6
1998	810.1	94.7	485.9	163.2	84.6	375.0	273.0	2,286.6	2,426.7	726.2	1,112.2	4,265.1	6,551.6
1999	766.2	119.7	491.8	187.1	62.6	614.8	391.5	2,633.7	2,274.8	653.3	923.4	3,851.4	6,485.1
2000	796.2	111.8	542.7	140.6	149.7	932.7	162.4	2,836.0	2,261.8	666.0	951.2	3,879.0	6,715.0
2001	815.4	129.7	633.1	198.8	113.9	782.4	381.1	3,054.3	1,660.9	658.7	893.1	3,212.6	6,267.0
2002	924.9	129.2	518.6	160.6	93.2	710.2	441.0	2,977.6	1,759.4	521.0	894.4	3,174.9	6,152.6
2003	1,055.5	190.2	753.3	191.5	103.9	166.4	201.2	2,662.1	1,721.8	676.6	1,690.4	4,088.7	6,750.8
2004	1,214.2	232.3	741.7	182.2	134.2	161.3	605.4	3,271.2	1,790.3	772.3	1,507.0	4,069.6	7,340.8
2005	1,102.2	215.6	689.8	173.1	46.9	185.2	604.5	3,017.4	2,008.7	533.6	1,561.0	4,103.3	7,120.6
2006	1,322.3	221.4	688.4	179.5	91.1	195.0	74.2	2,771.8	2,116.3	673.5	1,219.0	4,008.7	6,780.5
2007	1,039.3	240.6	731.5	188.7	96.3	162.3	379.5	2,838.1	2,240.6	599.3	1,369.2	4,209.1	7,047.2
2008	1,160.3	245.9	653.1	188.8	118.0	163.1	288.4	2,817.7	2,208.0	613.8	1,551.3	4,373.1	7,190.8
2009	1,134.3	234.8	789.9	192.4	127.3	140.4	190.0	2,809.1	2,267.3	727.8	1,413.3	4,408.4	7,217.5
2010	1,224.5	248.9	786.8	185.4	44.8	127.8	276.4	2,894.7	2,105.8	683.2	1,313.0	4,102.0	6,996.7
2011	1,163.9	228.2	855.3	188.6	21.4	158.8	246.4	2,862.5	1,955.1	694.2	1,278.1	3,927.3	6,789.8
2012	1,218.5	239.9	683.8	194.3	77.6	170.8	7.3	2,592.0	1,851.4	733.7	1,339.6	3,924.7	6,516.8
2013	1,004.5	231.3	823.8	191.4	93.5	182.4	0.0	2,526.9	1,662.2	623.8	1,006.8	3,292.8	5,819.7
2014	1,138.5	216.9	531.5	167.9	120.9	183.7	0.0	2,359.4	1,805.7	603.4	1,169.4	3,578.5	5,937.9
2015	866.0	188.3	516.3	144.1	34.6	138.1	0.0	1,887.5	1,436.9	538.0	967.6	2,942.5	4,830.0
2016	938.7	174.7	575.0	136.5	19.7	139.2	0.0	1,983.9	1,425.5	537.1	902.3	2,864.9	4,848.8
2017	823.4	175.3	701.2	141.8	80.5	133.9	0.0	2,056.1	1,439.8	492.7	827.8	2,760.3	4,816.4
2018	753.7	116.8*	731.4	155.0	79.8	134.2	0.0	1,970.9	1,424.3	449.4	951.0	2,824.7	4,795.7
2019	584.7	144.2	327.3	132.6	82.8	138.0	0.0	1,409.6	1,475.2	417.3	951.1	2,843.6	4,253.2
2020	386.9	115.9	518.2	138.0	83.6	77.2	0.0	1,319.8	1,273.8	400.3	613.8	2,287.9	3,607.7
2021	732.1	130.3	600.9	140.3	88.7	119.9	0.0	1,812.1	1,351.5	411.3	731.9	2,494.7	4,306.8
2022	770.1	100.0*	582.9	139.2	88.9	121.7	0.0	1,802.9	1,363.7	428.5	722.8	2,515.0	4,317.8
2023	677.0	80.6*	615.2	140.0	84.6	122.8	0.0	1,720.2	1,319.0	363.6	815.0	2,497.5	4,217.8

\*Rhode Island general category harvest (mostly rod and reel) shown only; floating fish trap landings confidential in 2018, 2022, and 2023.

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Table 7. Commercial harvest and discards by region in numbers of fish (x1000), 1997-2023 calendar years. Source: harvest is from state compliance reports, discards is from ASMFC. ^Estimates exclude inshore harvest.

Year	Ocean								Chesapeake Bay				Discards**			Grand Total Removals
	MA	RI	NY	DE	MD	VA	NC^	Total	MD	PRFC	VA	Total	Ocean	Bay	Total	
1997	44.0	7.1	37.6	33.2	8.4	17.3	25.8	173.4	620.3	87.7	195.2	903.2	258.0	75.1	333.1	1,409.7
1998	44.3	8.8	45.1	31.4	10.3	41.1	14.2	195.2	729.6	93.3	197.1	1,020.1	326.7	33.2	359.9	1,575.1
1999	40.9	11.6	49.9	34.8	10.2	48.7	21.1	217.2	776.0	90.6	139.8	1,006.3	316.3	32.5	348.8	1,572.4
2000	42.1	9.4	54.9	25.2	13.3	54.5	6.5	205.8	787.6	91.5	132.0	1,011.0	180.7	32.8	213.5	1,430.3
2001	45.8	10.9	58.3	34.4	11.1	42.3	25.0	227.7	538.8	87.8	77.1	703.7	139.7	43.0	182.7	1,114.1
2002	49.8	11.7	47.1	30.4	10.2	38.8	23.2	211.3	571.7	80.3	64.7	716.8	146.7	51.4	198.1	1,126.2
2003	56.4	15.5	68.4	31.5	11.6	10.5	5.8	199.6	427.9	83.1	143.7	654.7	95.6	33.6	129.2	983.5
2004	63.6	16.0	70.4	28.4	14.1	10.4	31.0	233.9	447.0	92.6	106.3	645.9	108.4	46.6	155.0	1,034.8
2005	60.5	14.9	70.6	26.3	6.1	11.3	27.3	217.1	563.9	80.6	108.9	753.3	84.6	62.4	147.0	1,117.4
2006	70.5	15.4	73.6	30.2	10.9	11.5	2.7	214.9	645.1	92.3	95.4	832.7	96.2	63.7	159.9	1,207.6
2007	54.2	13.9	78.5	31.1	11.6	10.6	16.8	216.7	587.6	86.5	124.3	798.4	93.3	65.4	158.7	1,173.8
2008	61.1	16.6	73.3	31.9	14.0	10.8	13.4	221.0	580.7	82.0	144.1	806.8	62.7	42.6	105.3	1,133.1
2009	59.4	16.8	82.6	21.8	12.5	8.9	9.0	211.1	605.6	89.6	143.8	839.0	58.8	72.8	131.6	1,181.6
2010	60.4	15.7	82.4	19.8	5.4	9.4	13.7	206.8	579.2	90.6	154.9	824.7	39.6	93.7	133.4	1,164.8
2011	58.7	14.3	87.4	20.5	2.1	12.2	10.9	206.0	488.9	96.1	153.7	738.7	34.8	47.4	82.2	1,027.0
2012	61.5	15.0	67.1	15.7	6.9	10.8	0.3	177.3	465.6	90.7	137.0	693.4	26.9	173.0	199.9	1,070.6
2013	58.6	13.8	76.2	17.7	7.6	10.0	0.0	183.8	391.5	78.0	131.0	600.5	37.3	79.6	116.9	901.3
2014	58.0	10.5	52.9	14.9	8.5	10.0	0.0	154.8	362.2	81.5	151.8	595.5	50.4	63.7	114.0	864.3
2015	42.3	11.3	45.6	11.0	2.6	7.7	0.0	120.4	298.3	71.0	132.2	501.5	34.9	49.9	84.8	706.8
2016	48.0	11.7	51.0	8.8	1.2	7.6	0.0	128.3	284.9	73.7	122.2	480.8	42.4	49.9	92.3	701.3
2017	41.2	10.1	61.6	9.5	3.5	7.6	0.0	133.5	263.6	67.5	128.0	459.2	78.1	22.3	100.3	693.0
2018	37.8	4.6*	52.2	11.4	3.5	6.9	0.0	116.4	286.4	64.4	148.4	499.3	56.6	43.9	100.5	716.1
2019	29.6	7.3	28.5	8.2	3.3	6.9	0.0	83.9	356.7	62.6	149.6	568.9	15.9	68.9	84.8	737.6
2020	19.6	5.0	47.5	8.4	3.4	4.42	0.0	88.4	299.9	66.6	126.4	492.9	19.2	41.2	60.4	641.6
2021	36.9	4.6	58.8	9.2	3.6	6.6	0.0	119.6	310.4	68.0	146.2	524.6	11.6	77.8	89.5	733.7
2022	33.0	3.9*	53.9	8.2	3.4	6.3	0.0	108.6	295.3	71.7	146.7	513.7	3.1	41.5	44.6	667.0
2023	29.9	2.6*	55.5	7.4	3.6	5.9	0.0	104.9	284.3	60.7	150.7	495.7	3.7	13.3	17.0	617.6

\*\* The entire time series for commercial dead discards was re-estimated as part of the 2024 stock assessment using a generalized additive model (GAM). \*RI general category harvest only; floating fish trap confidential for 2018, 2022, and 2023.

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Table 8. Total recreational catch, releases, and release mortality in numbers of fish by region (x1000), 1997-2023. Source: MRIP (Query June 2024).  
Estimates exclude inshore harvest from North Carolina.

Year	Harvest (A+B1)			Releases (B2)			Total Catch (A+B1+B2)			Release Mortality (9% of B2)		
	Ocean	Bay	Total	Ocean	Bay	Total	Ocean	Bay	Total	Ocean	Bay	Total
1997	1,514	1,261	2,775	22,819	10,178	32,998	24,333	11,439	35,773	2,054	916	2,970
1998	1,647	1,268	2,915	29,294	6,918	36,213	30,941	8,187	39,128	2,637	623	3,259
1999	1,758	1,366	3,123	26,139	8,760	34,899	27,897	10,125	38,022	2,353	788	3,141
2000	2,198	1,604	3,802	25,090	8,734	33,824	27,289	10,338	37,627	2,258	786	3,044
2001	2,758	1,294	4,052	21,073	6,145	27,218	23,831	7,440	31,270	1,897	553	2,450
2002	2,756	1,249	4,005	23,653	7,371	31,024	26,409	8,620	35,030	2,129	663	2,792
2003	3,124	1,658	4,781	20,678	10,971	31,649	23,802	12,628	36,431	1,861	987	2,848
2004	3,078	1,475	4,553	27,868	12,857	40,725	30,946	14,332	45,278	2,508	1,157	3,665
2005	3,182	1,299	4,481	28,663	9,580	38,244	31,845	10,879	42,724	2,580	862	3,442
2006	2,789	2,095	4,884	41,239	12,232	53,470	44,028	14,327	58,354	3,711	1,101	4,812
2007	2,327	1,618	3,945	25,135	7,579	32,714	27,462	9,196	36,659	2,262	682	2,944
2008	3,025	1,356	4,381	21,878	4,691	26,569	24,904	6,046	30,950	1,969	422	2,391
2009	2,898	1,803	4,700	16,740	4,838	21,578	19,638	6,641	26,279	1,507	435	1,942
2010	3,906	1,483	5,388	13,606	5,957	19,564	17,512	7,440	24,952	1,225	536	1,761
2011	3,617	1,389	5,006	12,644	3,823	16,467	16,261	5,212	21,473	1,138	344	1,482
2012	3,071	975	4,046	11,242	9,290	20,532	14,314	10,265	24,578	1,012	836	1,848
2013	3,723	1,435	5,158	19,463	7,131	26,594	23,186	8,565	31,751	1,752	642	2,393
2014	2,276	1,758	4,034	15,107	9,031	24,137	17,382	10,789	28,171	1,360	813	2,172
2015	1,770	1,316	3,086	15,419	10,216	25,635	17,189	11,532	28,721	1,388	919	2,307
2016	1,817	1,683	3,500	17,794	15,333	33,127	19,611	17,016	36,627	1,601	1,380	2,981
2017	1,738	1,200	2,938	28,963	9,050	38,012	30,701	10,249	40,950	2,607	814	3,421
2018	1,195	1,050	2,245	22,739	8,669	31,407	23,933	9,719	33,652	2,046	780	2,827
2019	1,342	809	2,151	21,131	7,636	28,767	22,473	8,445	30,918	1,902	687	2,589
2020	923	787	1,710	22,710	7,959	30,669	23,633	8,746	32,379	2,044	716	2,760
2021	1,189	653	1,842	24,281	4,427	28,709	25,470	5,081	30,551	2,185	398	2,584
2022	2,756	697	3,454	26,031	3,611	29,643	28,788	4,309	33,097	2,343	325	2,668
2023	2,036	588	2,624	22,363	3,676	26,040	24,400	4,264	28,664	2,013	331	2,344



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Table 9. Recreational harvest by region in pounds (x1000), 1997-2023. Source: MRIP (Query June 2024). ^Estimates exclude NC inshore harvest.

Year	Ocean												Chesapeake Bay			Grand Total
	ME	NH	MA	RI	CT	NY	NJ	DE	MD	VA	NC^	Total	MD	VA	Total	
1997	223	538	5,133	1,997	2,263	8,543	2,179	374	0.0	1,096	865	23,211	3,203	4,203	7,405	30,616
1998	305	262	7,359	1,544	1,807	4,889	4,182	645	579	545	636	22,754	3,023	3,826	6,849	29,603
1999	196	181	4,995	1,904	1,327	7,414	9,473	312	3.8	110	339	26,256	2,323	4,986	7,309	33,565
2000	347	109	4,863	2,008	890	7,053	9,768	925	0.0	416	277	26,656	3,503	3,892	7,395	34,051
2001	446	334	7,188	2,044	1,101	5,058	12,314	695	314	382	1,082	30,959	2,928	5,376	8,304	39,263
2002	775	322	10,261	2,708	1,251	5,975	9,621	589	0.0	1,135	998	33,634	2,643	5,563	8,206	41,840
2003	458	466	10,252	4,052	2,666	10,788	12,066	763	14	392	966	42,882	5,246	5,964	11,210	54,092
2004	554	268	9,329	2,460	2,229	6,437	13,303	870	57	1,067	6,656	43,230	4,860	4,941	9,801	53,031
2005	546	384	7,541	3,155	3,133	11,637	14,289	680	7.7	487	3,947	45,808	7,753	3,860	11,614	57,421
2006	610	244	6,787	1,569	2,854	9,845	12,716	586	2.8	921	2,975	39,109	6,494	5,071	11,565	50,674
2007	422	93	7,010	2,077	2,786	10,081	8,390	207	0.0	516	1,965	33,547	5,249	4,027	9,277	42,824
2008	607	182	8,424	970	2,273	18,000	12,407	847	0.0	1,690	750	46,150	5,639	4,877	10,515	56,665
2009	781	222	9,410	2,185	1,458	7,991	17,040	940	138	48	187	40,399	8,672	5,340	14,012	54,411
2010	218	238	9,959	2,102	2,323	18,190	17,454	895	107	206	1,198	52,891	6,482	2,059	8,541	61,431
2011	245	659	11,953	3,066	981	13,151	15,715	605	8.6	308	4,467	51,157	6,220	2,214	8,435	59,592
2012	152	432	14,941	2,096	1,835	13,096	11,551	644	21	1.7	0.0	44,768	3,819	4,670	8,488	53,257
2013	331	831	9,025	4,428	4,236	16,819	19,451	1,073	1,051	67	0.0	57,313	5,137	2,607	7,744	65,057
2014	423	203	7,965	3,402	2,665	13,998	8,886	381	159	0.0	0.0	38,083	8,877	989	9,866	47,949
2015	132	202	7,799	1,394	2,585	8,695	9,982	340	28	0.0	0.0	31,156	7,786	957	8,743	39,899
2016	189	191	3,731	1,776	912	12,053	12,790	86	7.2	0.0	0.0	31,735	10,912	1,024	11,936	43,672
2017	318	394	5,664	1,655	1,560	8,885	10,886	666	0.0	1.8	0.0	30,030	7,309	613	7,922	37,953
2018	142	130	4,925	1,121	1,165	3,453	7,012	33	0.0	0.0	0.0	17,982	4,683	404	5,087	23,069
2019	415	291	2,698	2,300	685	7,072	6,674	44	7.3	0.0	0.0	20,187	3,145	224	3,370	23,556
2020	180	29	776	483	830	2,202	6,584	16	0.0	0.0	0.0	11,100	3,480	280	3,759	14,859
2021	89	36	1,826	597	201	1,492	8,313	132	0	0	0	12,686	2,682	414	3,095	15,782
2022	590	240	5,288	779	1,294	10,695	13,508	39	0	0	0	32,434	3,083	288	3,371	35,805
2023	510	287	3,212	575	769	5,171	10,730	0	31	0	0	21,285	2,195	458	2,653	23,938

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Table 10. Recreational harvest by region in numbers of fish (x1000), 1997-2023. Source: MRIP (Query June 2024). ^Estimates exclude NC inshore harvest.

Year	Ocean												Chesapeake Bay			Grand Total
	ME	NH	MA	RI	CT	NY	NJ	DE	MD	VA	NC^	Total	MD	VA	Total	
1997	43.0	29.9	365.6	124.7	149.0	450.5	171.2	29.1	0.0	91.1	60.1	1,514.1	552.4	708.4	1,260.8	2,775.0
1998	65.3	14.8	500.9	91.1	114.1	383.8	289.2	51.0	24.3	71.3	41.2	1,647.0	596.2	672.2	1,268.4	2,915.4
1999	37.5	9.9	327.1	116.6	88.2	450.9	657.1	28.3	1.6	14.1	26.4	1,757.8	530.9	834.8	1,365.7	3,123.5
2000	77.3	6.0	306.2	156.8	84.0	494.6	939.8	88.3	0.0	27.2	18.1	2,198.3	810.9	793.3	1,604.2	3,802.5
2001	91.9	23.5	551.0	149.8	78.2	364.2	1,267.5	70.6	64.1	36.7	60.7	2,758.1	513.3	781.1	1,294.4	4,052.5
2002	135.2	28.1	723.5	181.5	92.5	439.3	957.6	65.7	0.0	76.4	56.3	2,756.1	464.4	784.6	1,249.0	4,005.1
2003	99.7	41.3	797.2	226.4	181.7	678.4	942.8	75.7	0.9	29.3	50.4	3,123.8	816.0	841.6	1,657.6	4,781.4
2004	118.3	22.1	666.7	159.6	134.5	458.1	1,042.1	66.6	11.0	75.9	323.2	3,078.1	657.5	817.4	1,474.9	4,553.0
2005	118.3	35.5	536.1	195.6	202.6	854.6	958.1	48.8	3.6	34.2	194.9	3,182.2	815.5	483.1	1,298.6	4,480.8
2006	140.9	20.9	483.2	129.3	168.3	614.8	972.2	44.5	0.4	80.6	134.2	2,789.0	1,342.0	753.0	2,094.9	4,884.0
2007	95.5	8.1	471.9	135.8	163.9	602.8	722.2	17.2	0.0	28.0	81.8	2,327.1	1,127.3	490.3	1,617.6	3,944.7
2008	133.4	11.9	514.1	73.4	132.8	1,169.9	791.0	67.7	0.0	94.4	36.9	3,025.4	779.7	576.1	1,355.8	4,381.2
2009	146.5	17.3	695.0	138.4	100.3	574.2	1,141.5	64.8	10.2	3.0	6.5	2,897.7	1,094.4	708.1	1,802.5	4,700.2
2010	37.3	21.4	808.2	162.0	170.2	1,449.0	1,091.4	61.4	12.5	25.3	67.1	3,905.9	1,139.3	343.2	1,482.6	5,388.4
2011	48.5	54.2	873.5	202.2	91.1	1,005.3	1,038.9	43.7	0.8	51.2	207.6	3,617.1	1,112.1	277.2	1,389.3	5,006.4
2012	31.4	37.3	1,010.6	130.7	137.1	927.5	742.4	51.3	2.9	0.3	0.0	3,071.5	716.7	258.1	974.8	4,046.3
2013	73.3	63.2	658.7	308.3	269.6	902.5	1,324.2	70.6	48.4	4.4	0.0	3,723.2	1,136.7	297.9	1,434.5	5,157.8
2014	86.4	16.5	523.5	172.0	131.8	804.5	501.9	26.2	12.6	0.0	0.0	2,275.5	1,627.0	131.2	1,758.2	4,033.7
2015	14.4	10.0	485.3	67.0	140.8	406.8	600.3	41.9	3.5	0.0	0.0	1,770.1	1,108.0	207.7	1,315.7	3,085.7
2016	14.2	17.6	230.1	128.4	63.3	697.7	659.6	5.9	0.5	0.0	0.0	1,817.2	1,545.1	138.1	1,683.2	3,500.4
2017	22.0	37.7	392.3	59.8	94.9	477.3	626.4	27.8	0.0	0.1	0.0	1,738.3	1,091.6	108.0	1,199.6	2,937.9
2018	16.0	13.4	389.5	39.2	85.5	181.7	465.3	4.2	0.0	0.0	0.0	1,194.6	993.3	56.8	1,050.1	2,244.8
2019	38.0	14.7	195.6	104.1	67.1	498.0	412.9	10.9	1.0	0.0	0.0	1,342.2	764.1	44.6	808.7	2,150.9
2020	19.0	3.2	67.2	36.9	71.2	203.7	520.1	1.6	0.0	0.0	0.0	922.9	734.8	52.2	787.0	1,710.0
2021	12.7	4.4	179.1	57.7	21.2	137.8	766.2	9.496	0.0	0.0	0.0	1,189	583.7	69.6	653.3	1,842.9
2022	57.6	23.4	479.9	66.4	116.2	882.9	1,126.5	4.0	0.0	0.0	0.0	2,757	642.2	55.0	697.2	3,454.0
2023	62.8	36.1	343.8	51.9	78.9	500.4	959.3	0	3.081	0	0	2,036	502.3	86.0	588.3	2,624.4

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Table 11. Recreational harvest by wave for 2022 and 2023 for the ocean and Chesapeake Bay regions.

		Ocean Rec. Harvest	Ocean 2023 relative to 2022	Chesapeake Bay Rec. Harvest	Chesapeake Bay 2023 relative to 2022
<b>2022</b>	Wave 2	503,467		0	
<b>2023</b>	Wave 2	545,313	+8%	0	-
<b>2022</b>	Wave 3	515,812		166,832	
<b>2023</b>	Wave 3	430,324	-17%	170,386	+2%
<b>2022</b>	Wave 4	532,784		151,059	
<b>2023</b>	Wave 4	216,147	-59%	129,309	-14%
<b>2022</b>	Wave 5	452,936		256,964	
<b>2023</b>	Wave 5	145,039	-68%	66,684	-74%
<b>2022</b>	Wave 6	751,855		122,317	
<b>2023</b>	Wave 6	699,316	-7%	221,913	+81%

Table 12. State implementation dates for the 31-inch maximum size limit for recreational fisheries required under the 2023 Emergency Action by the implementation deadline of July 2, 2023.

State	2023 Effective Date	Wave
<b>ME</b>	May 18	Mid Wave 3
<b>NH</b>	May 26	Mid Wave 3
<b>MA</b>	May 26	Mid Wave 3
<b>RI</b>	May 27	Mid Wave 3
<b>CT</b>	May 26	Mid Wave 3
<b>NY</b>	June 20	Late Wave 3
<b>NJ</b>	July 2	Early Wave 4
<b>PA</b>	June 3	Mid Wave 3
<b>DE</b>	May 21	Mid Wave 3
<b>MD</b>	May 16	Mid Wave 3
<b>PRFC</b>	May 16	Mid Wave 3
<b>DC</b>	May 16	Mid Wave 3
<b>VA</b>	July 1	Early Wave 4
<b>NC</b>	June 1	Mid Wave 3

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Table 13. Recreational harvest and recreational release mortality by mode for 2022-2023. Source: MRIP (Query July 2024).

<b>Year</b>	<b>Private-Shore Harvest</b>	<b>For-Hire Harvest</b>	<b>Private-Shore Release Mortality</b>	<b>For-Hire Release Mortality</b>
<b>OCEAN</b>				
<b>2022</b>	2,619,253	137,595	2,305,198	37,608
<b>2023</b>	1,967,001	69,135	1,984,532	28,172
<b>CHESAPEAKE BAY</b>				
<b>2022</b>	553,480	143,694	310,919	14,121
<b>2023</b>	416,900	171,393	319,434	11,417
<b>COASTWIDE</b>				
<b>2022</b>	3,172,733	281,289	2,616,117	51,729
<b>2023</b>	2,383,901	240,528	2,303,966	39,589

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Table 14. Number of directed trips for Atlantic striped bass (primary and secondary target) from Maine through North Carolina (excluding inshore NC) for 2019-2023. Source: MRIP (Query July 2024).

<b>Year</b>	<b>Ocean</b>	<b>Chesapeake Bay</b>	<b>Coastwide Total</b>
<b>2019</b>	16,189,653	1,967,387	<b>18,157,040</b>
<b>2020</b>	15,859,277	2,678,922	<b>18,538,199</b>
<b>2021</b>	16,017,420	2,183,568	<b>18,200,988</b>
<b>2022</b>	21,044,439	2,132,346	<b>23,176,785</b>
<b>2023</b>	18,358,961	2,133,807	<b>20,492,768</b>

Table 15. Number of directed trips for Atlantic striped bass (primary and secondary target) by mode from Maine through North Carolina (excluding inshore NC) for 2022-2023. Source: MRIP (Query July 2024).

<b>Year</b>	<b>Private-Shore Directed Trips</b>	<b>For-Hire Directed Trips</b>
<b>OCEAN</b>		
<b>2022</b>	20,814,563	229,876
<b>2023</b>	18,191,509	167,453
<b>CHESAPEAKE BAY</b>		
<b>2022</b>	2,023,852	108,494
<b>2023</b>	2,016,729	117,078

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Table 16. Results of 2023 commercial quota accounting in pounds. Source: 2024 state compliance reports. 2023 quota was based on Amendment 7 and previously approved Addendum VI to Amendment 6 conservation equivalency programs.

<b>State</b>	<b>2023 Quota<sup>^</sup></b>	<b>2023 Harvest</b>	<b>2023 Overage</b>
<b>Ocean</b>			
Maine*	154	-	-
New Hampshire*	3,537	-	-
Massachusetts	700,379 (adjusted for 2022 overage)	676,955	0
Rhode Island General Category	81,671 (adjusted for 2022 overage)	80,603	0
Rhode Island Floating Fish Trap	Confidential (adjusted for 2022 overage)	Confidential	0
Connecticut*	14,607	-	-
New York	640,718	615,198	0
New Jersey**	215,912	-	-
Delaware	142,474	140,048	0
Maryland	89,094	84,633+	0
Virginia	125,034	122,778+	0
North Carolina	295,495	0	0
<b>Ocean Total</b>	<b>2,309,075</b>	<b>1,720,215</b>	<b>0</b>
<b>Chesapeake Bay</b>			
Maryland	1,445,394	1,318,970+	0
Virginia	983,393	814,986+	0
PRFC	572,861	378,115	0
<b>Bay Total</b>	<b>3,001,648</b>	<b>2,512,071</b>	<b>0</b>

Note: North Carolina’s fishing year is December-November; PRFC’s fishing year for gill nets is November-March.

\* Commercial harvest/sale prohibited, with no re-allocation of quota.

\*\* Commercial harvest/sale prohibited, with re-allocation of quota to the recreational fishery.

<sup>^</sup> Quota changed from Amendment 7 standard through conservation equivalency for MA, NY, NJ, DE, MD, PRFC, and VA.

+ Maryland and Virginia commercial landings for 2023 are considered preliminary.

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Table 17. Status of Commercial Tagging Programs by state for 2023.

State	Total Participants	Tags Issued	Tags Used	Tags Returned /Broken	Tags Not Accounted For <sup>1</sup>	Point of Tag (sale/harvest)	Biological Metric <sup>2</sup> (Y/N)	Year, State and Unique ID on Tag (Y/N)	Size Limit on Tag (Y/N)	Tag Colors	Annual Tag Color Change (Y/N)
MA	128	54,560	29,900	24,086	574	Sale	Y	Y	Y	one tag color	Y
RI GC only <sup>3</sup>	18	4,710	2,595	796	1,319	Sale	Y	Y	N	two tag colors by gear	Y
NY	381	61,851	55,506	5,867	478	Harvest	Y	Y	N	one tag color	Y
DE*	243	17,310	7,420	9,890	0	Both	Y	Y	N	Harvest: two tag colors by gear Sale: one color	Y
MD <sup>±</sup>	647	442,850	287,907	tbd	tbd	Harvest	Y	Y	N	three tag colors by fishery and area	Y
PRFC	258	79,500	62,505	16,685	310	Harvest	Y	Y	N	five tag colors by gear	N
VA	364	198,550	156,644	tbd	tbd	Harvest	Y	Y	Y	two tag colors by area	Y
NC <sup>^</sup>	22	7,940	4,322	3,595	23	Sale	Y	Y	Y	three tag colors by area	N

<sup>1</sup> Tags not accounted for refers to unused tags that are not returned/not reported as lost or missing.

<sup>2</sup> States are required to allocate commercial tags to permit holders based on a biological metric. Most states use the average weight per fish from the previous year, or some variation thereof. Actual biological metric used is reported in Annual Commercial Tag Monitoring Reports.

<sup>3</sup> Rhode Island tag information only listed for the general category (GC) fishery, which is mostly rod/reel. Floating fish trap harvest for 2023 are confidential.

\*The number of tags noted in the table for Delaware are the tags issued to and used by harvesters. Tags are also issued to weigh stations where a second tag is attached to each striped bass, such that each fish has two tags.

± Maryland’s audit of unused tags has been delayed by staffing issues.

^ All commercial tags noted in the table for North Carolina were used in the Albemarle Sound management area.

Note: North Carolina’s fishing year is December-November; PRFC’s fishing year for gill nets is November-March.

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Table 18. Status of compliance with monitoring and reporting requirements in 2023. JAI = juvenile abundance index survey, SSB = spawning stock biomass survey, TAG = participation in coastwide tagging program, Y = compliance standards met, N = compliance standards not met, NA = not applicable, R = recreational, C = commercial.

Jurisdiction	Fishery-independent Monitoring		Fishery-dependent Monitoring		Annual reporting Status
	Requirement(s)	Status	Requirement(s)	Status	
ME	JAI	Y	-	NA	Y
NH	-	NA	-	NA	Y
MA	TAG	Y	composition, catch & effort (C&R), tag program	Y	Y
RI	-	NA	composition (C&R), catch & effort (R), tag program	Y	Y
CT	-	NA	composition, catch & effort (R)	Y	Y
NY	JAI, SSB, TAG	Y	composition, catch & effort (C&R), tag program	Y	Y
NJ	JAI, TAG	Y	composition, catch & effort (R)	Y	Y
PA	SSB	Y	-	NA	Y
DE	SSB, TAG	Y	composition, catch & effort (C), tag program	Y	Y
MD	JAI, SSB, TAG	Y	composition, catch & effort (C&R), tag program	Y	Y
PRFC	-	NA	composition, catch & effort (C&R), tag program	Y	Y
DC	-	NA	-	NA	Y
VA	JAI, SSB, TAG	Y	composition, catch & effort (C&R), tag program	Y	Y
NC	JAI, SSB, TAG	Y	composition, catch & effort (C&R), tag program	Y	Y



**DRAFT FOR BOARD REVIEW**

Table 19. State implementation of new Amendment 7 recreational gear provisions.

- *It shall be unlawful for any person to gaff or attempt to gaff any striped bass at any time when fishing recreationally.*
- *Striped bass caught on any unapproved method of take must be returned to the water immediately without unnecessary injury.*

State	Gaffing Prohibition	Referred Language for Incidental Catch Provision
Maine	Yes	Striped bass incidentally caught on any unapproved hook type must be returned to the water immediately without unnecessary injury.
New Hampshire	Yes	Fish shall be taken only by angling unless otherwise specifically permitted. If a fish is unintentionally taken contrary to the prohibitions or restrictions contained in a provision of this title, such fish shall be immediately liberated and returned to the water without unnecessary injury.
Massachusetts	Yes	Striped bass caught on any unapproved method of take must be returned to the water immediately without unnecessary injury.
Rhode Island	Yes	Striped bass caught on any unapproved method of take must be returned to the water immediately without unnecessary injury.
Connecticut	Yes	Striped bass shall not be taken except by angling and the use of a gaff in the taking of striped bass is prohibited. Any striped bass taken contrary to the provisions of this section shall, without avoidable injury, be returned immediately to the waters from which taken.
New York	Yes	Striped bass caught on any unapproved method of take must be returned to the water immediately without unnecessary injury.
New Jersey	Yes	Striped bass caught on any unapproved method of take must be returned to the water immediately without unnecessary injury.
Pennsylvania	Yes	<p>Any fish caught that is not to be counted in the creel limit shall be immediately released unharmed into the water from which taken. Except as otherwise provided in § 53.24 or § 63.40 (relating to tournament and fishing derby permits; and fishing tournaments and fishing derbies), a fish placed on a stringer, or confined by any type of container, structure or device, or not returned immediately to the water, will be considered as part of the daily creel or possession limits. Fish returned to the water shall be handled carefully and be returned unharmed to the water from which take.</p> <p>It is unlawful to use a method for taking fish or attempting to take fish from the waters of this Commonwealth, including boundary lakes and rivers, unless the use of the method is specifically authorized by law or this part.</p>

**DRAFT FOR BOARD REVIEW**

State	Gaffing Prohibition	Referred Language for Incidental Catch Provision
Delaware	Yes	It is unlawful for any recreational fisherman to take or attempt to take any striped bass from the tidal waters of this State with any fishing equipment other than a hook and line or a spear while said recreational fisherman using the spear is underwater... ... Any striped bass taken from the tidal waters of this State that is not immediately returned, without unnecessary injury, to the same waters from which it was taken, is deemed taken and reduced to possession for purposes of this subsection.
Maryland	Yes	An individual may only use the gear specified in this regulation to catch fish for recreational purposes from tidal waters. An individual using gear in accordance with this chapter shall comply with all seasons, creel limits, size limits, and other species-specific rules as specified under this subtitle...
District of Columbia	No, but does not specify gaffs as legal gear	Except as otherwise permitted by these rules, a person shall fish only with rod, hook, and line, not to exceed three (3) lines in number and not having more than two (2) hooks to each line. Artificial lures or plugs with multiple or gang hooks are considered one unit.  It is unlawful to: Take fish except as specified in this chapter
PRFC	Yes	Any fish, whose size is prohibited or whose season is closed by these regulations, which may be caught or entrapped as an incident to other lawful fishing activities, shall be immediately released and returned to the waters where found...
Virginia	Yes	It shall be unlawful for any person fishing recreationally to take, catch, or attempt to take or catch any striped bass by any gear or method other than hook-and-line, rod and reel, hand line, or spearing.
North Carolina	Yes	Striped bass taken on any unapproved method must be returned to the water immediately without unnecessary injury.

XI. Figures

Figure 1. Atlantic striped bass female spawning stock biomass and recruitment, 1982-2021. Source: 2022 Stock Assessment Update.

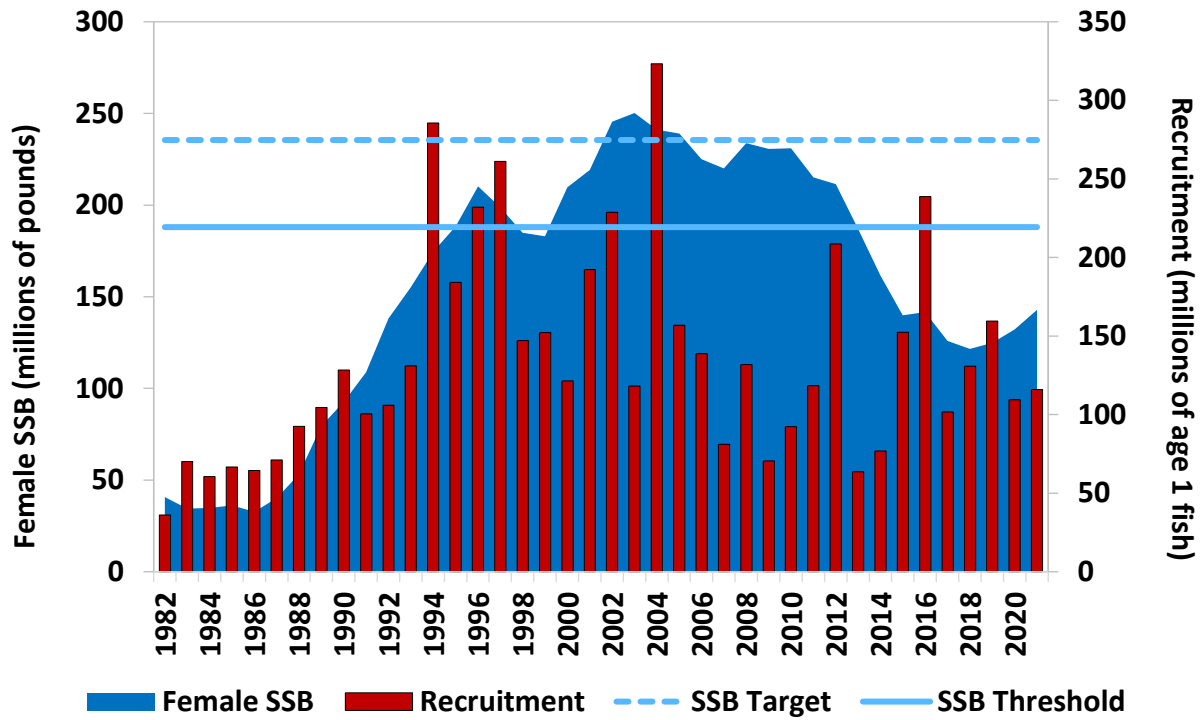


Figure 2. Atlantic striped bass fishing mortality, 1982-2021. Source: 2022 Stock Assessment Update.

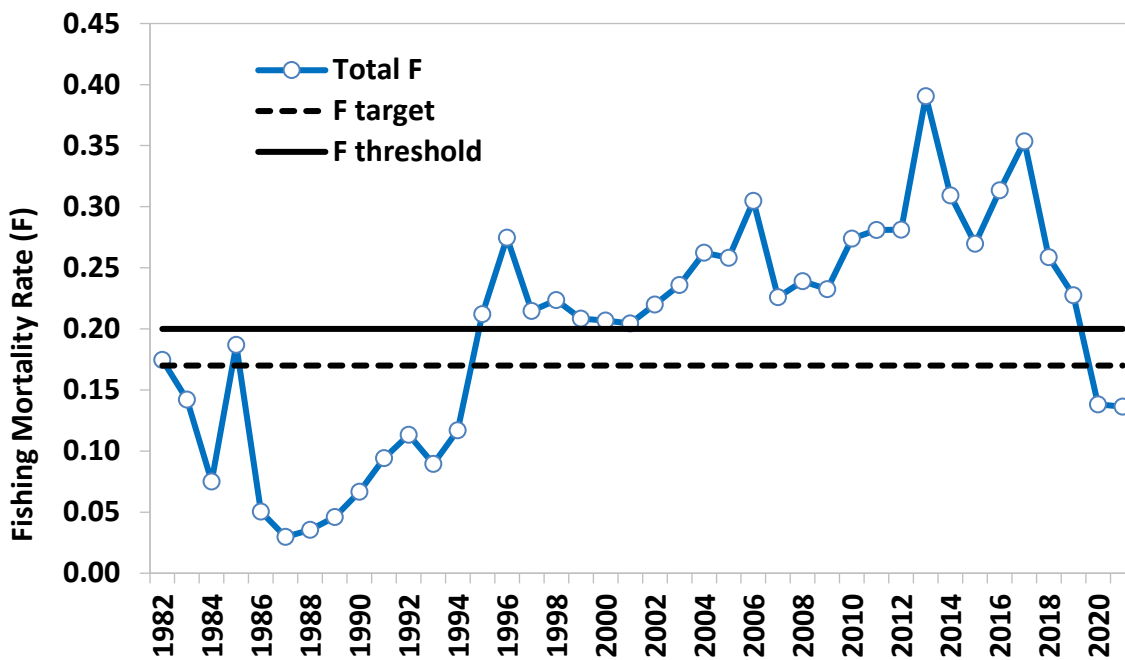


Figure 3. Albemarle Sound-Roanoke River striped bass female spawning stock biomass and recruitment (abundance of age-1), and biological reference points, 1991-2021. Source: 2022 A-R Stock Assessment (Lee et al. 2022).

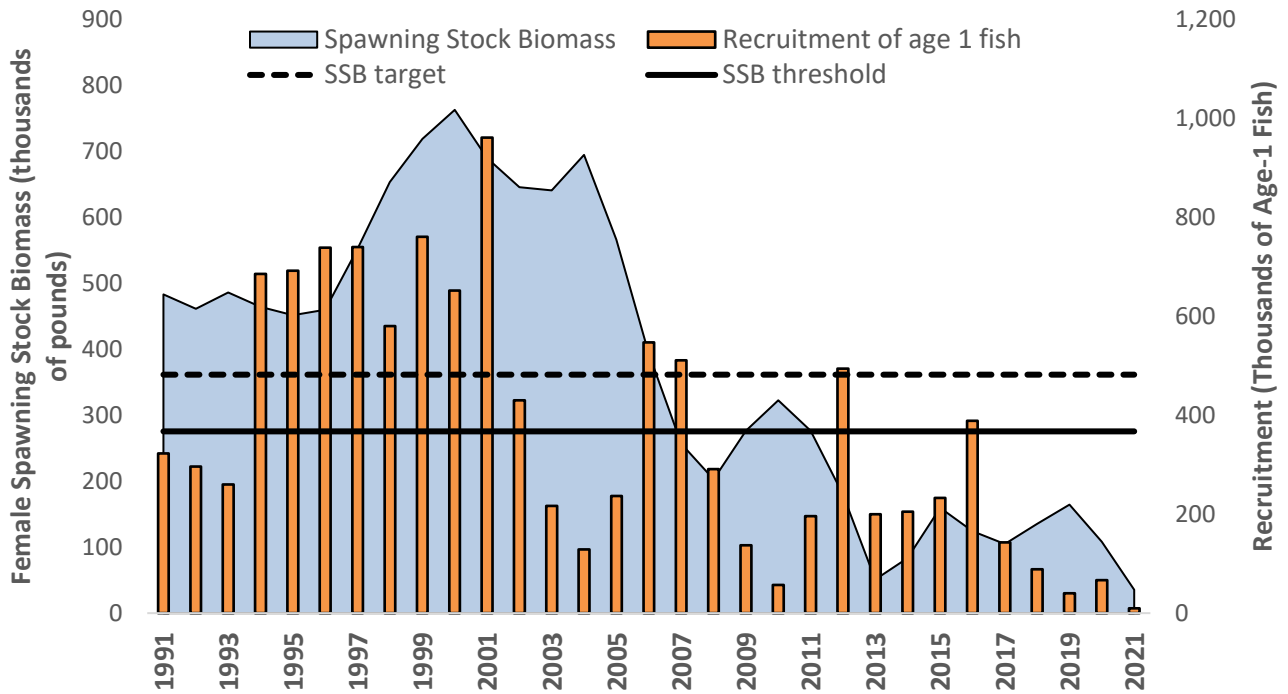


Figure 4. Albemarle Sounds-Roanoke River striped bass fishing mortality (F) estimates, and biological reference points, 1991-2021. Source: 2022 A-R Stock Assessment (Lee et al. 2022).

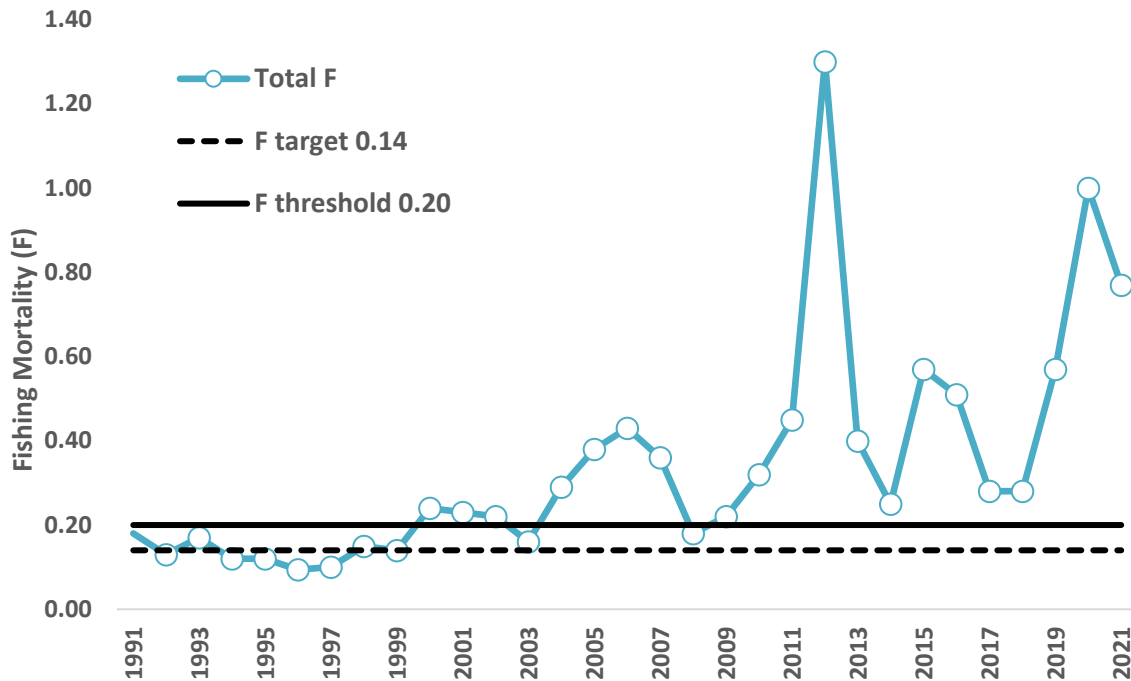


Figure 5. Total Atlantic striped bass removals by sector in numbers of fish, 1982-2023. Note: Harvest is from state compliance reports/MRIP, discards/release mortality is from ASMFC. Estimates exclude inshore harvest from A-R.

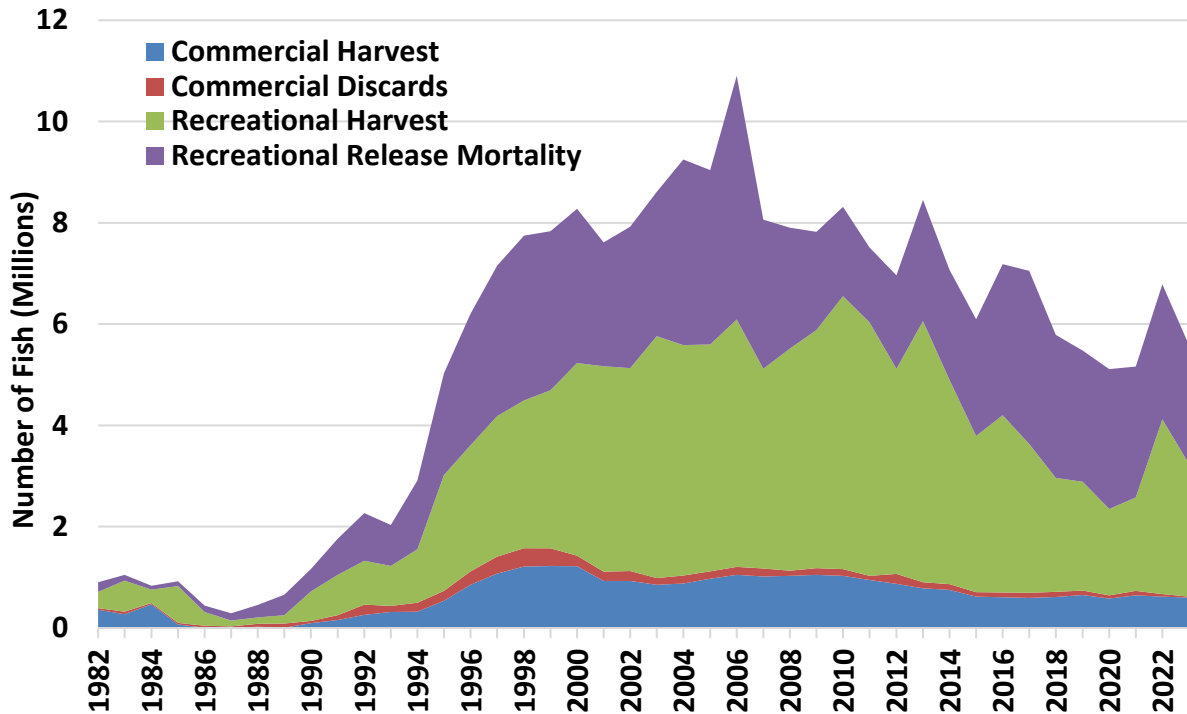


Figure 6. Commercial Atlantic striped bass landings by state in pounds, 1982-2023. Source: State compliance reports. Commercial harvest and sale prohibited in ME, NH, CT, and NJ. NC is ocean only.

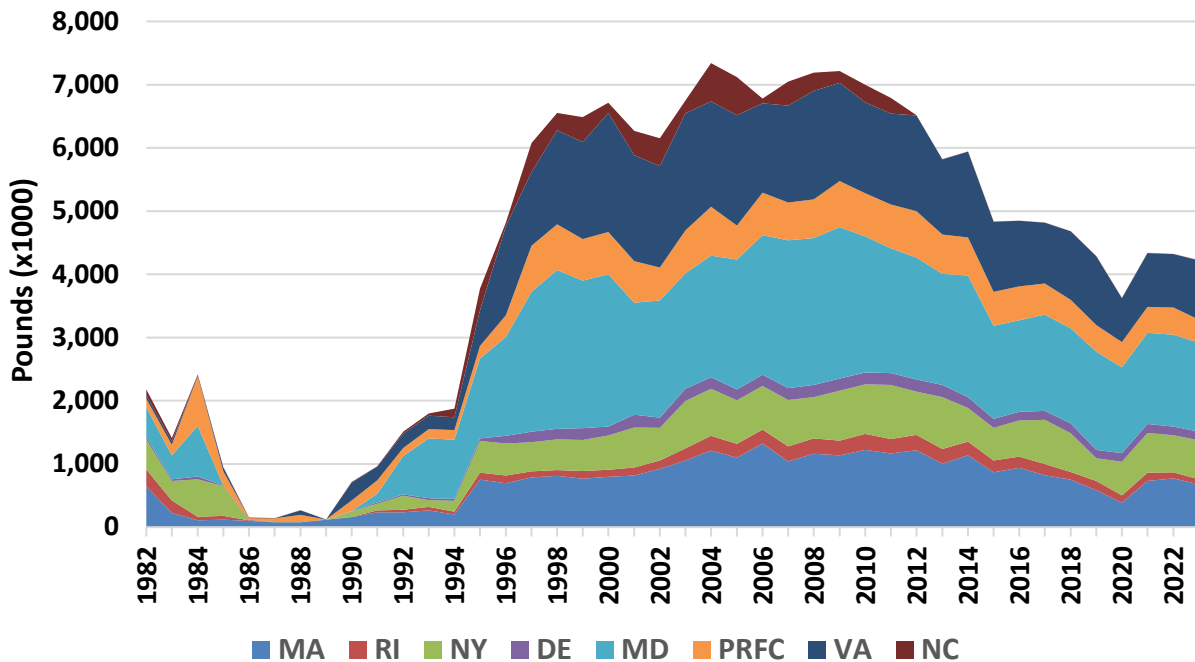


Figure 7. Total recreational catch and the proportion of fish released alive, 1982-2023. Source: MRIP/ASMFC. Estimates exclude inshore harvest from A-R.

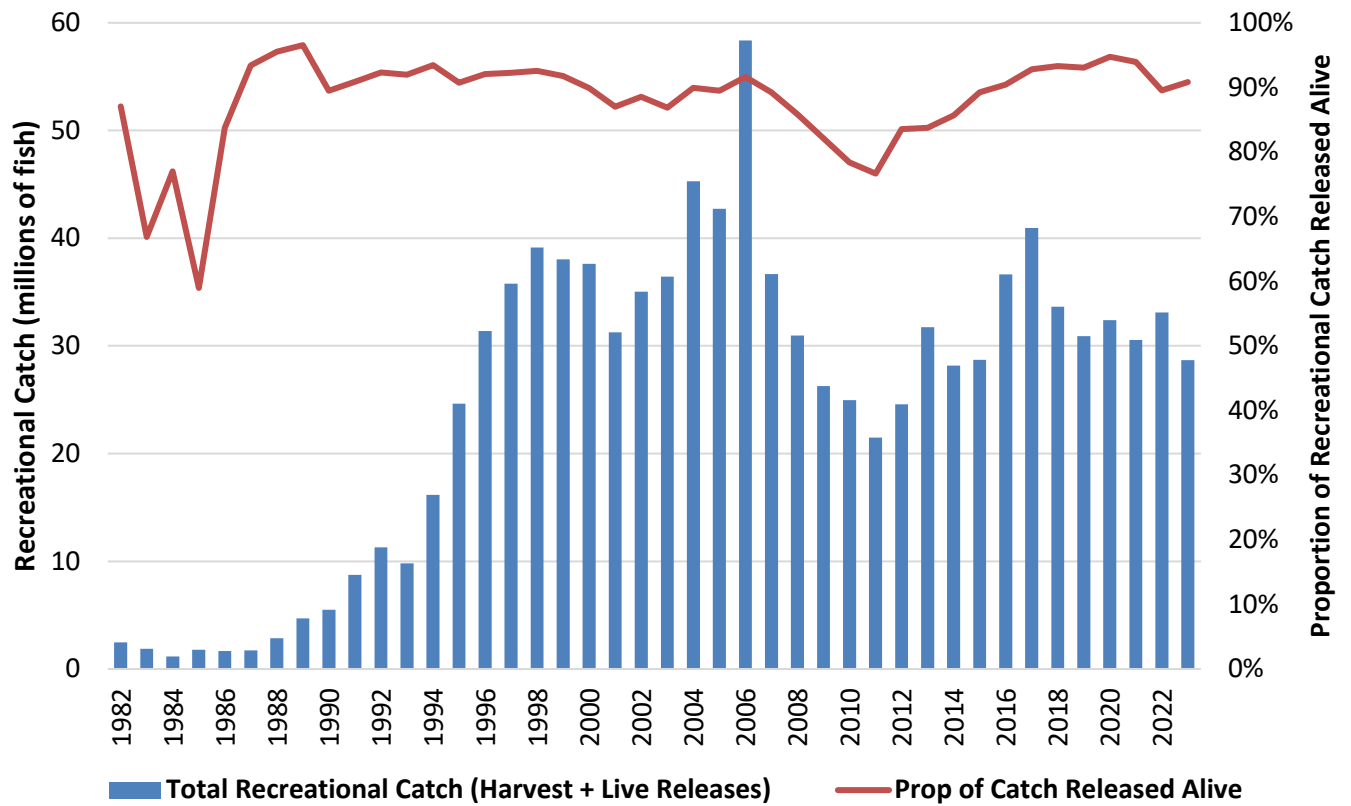


Figure 8. Juvenile abundance indices for New York, New Jersey, Maryland, and Virginia for 1982-2023 with recruitment trigger analysis for recent years. An open circle in the last three years indicates a value below the recruitment trigger level. The recruitment trigger is tripped if a JAI is below the trigger level for three consecutive years. Source: 2024 State Compliance Reports.

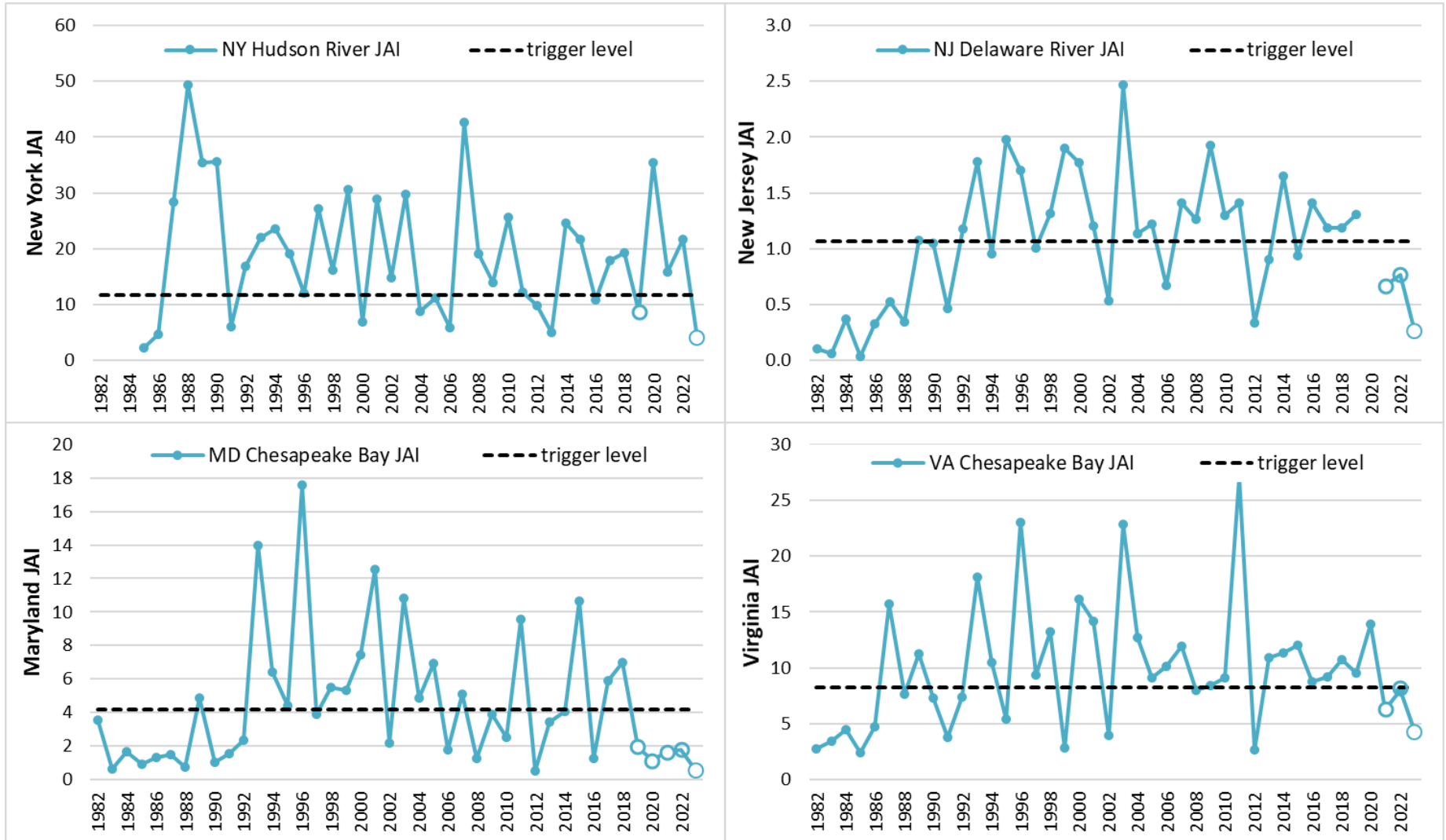
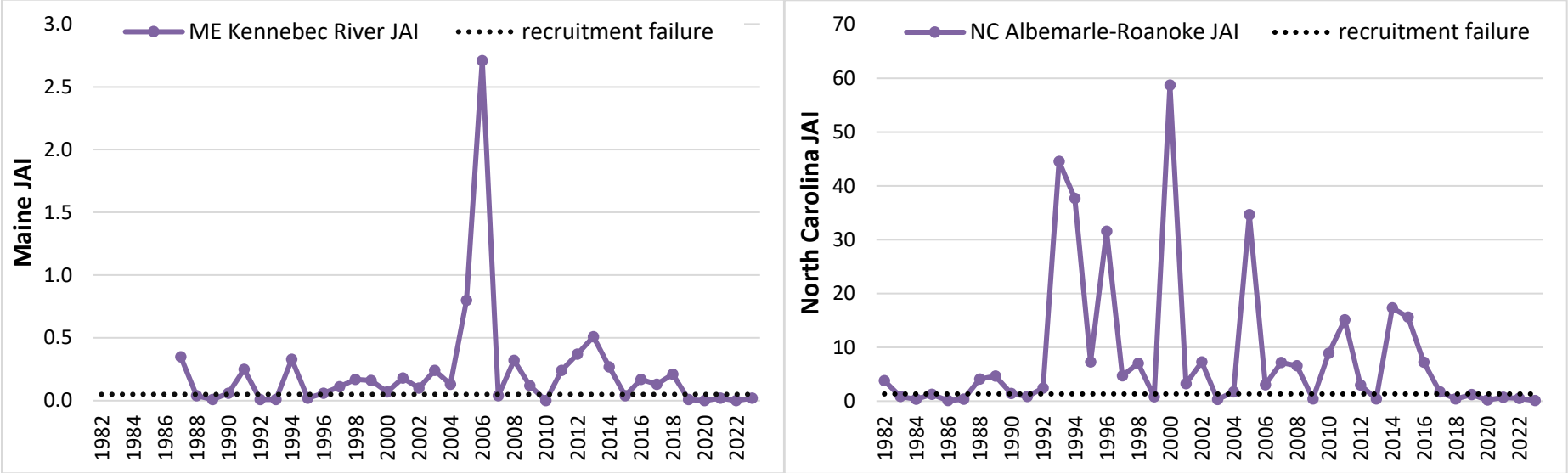


Figure 9. Juvenile abundance indices for Maine and North Carolina from 1982-2022 noting the level of recruitment failure. Source: 2023 State Compliance Reports.







# Atlantic States Marine Fisheries Commission

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## MEMORANDUM

**TO:** Atlantic Striped Bass Management Board

**FROM:** Board Work Group on Recreational Release Mortality

**DATE:** July 30, 2024

**SUBJECT:** Work Group Recommendations on Stock Assessment and Public Scoping Tasks

In May 2024, the Atlantic Striped Bass Management Board established a Board Work Group (WG) to discuss recreational release mortality (RRM) and approved the following WG tasks:

1. Review existing no-targeting closures in state and federal waters, including any information on impacts to striped bass catch and effort as well as their enforceability. Identify potential angler responses/behavior change to those closures.
2. Review the MA DMF discard mortality study and other relevant reports to evaluate the efficacy of potential gear modifications.
3. Identify assessment sensitivity runs which may inform Board discussion around release mortality (e.g., how low would you have to reduce the release mortality rate in order to see a viable reduction in removals with the same level of effort?). Consider the tradeoff of reducing the release mortality rate vs. reducing the number of releases overall.
4. Consider public scoping on measures to address release mortality (e.g., online public survey ahead of the October Board meeting).

The WG met via webinar on June 24 and July 17, 2024 to primarily discuss Task #3 regarding the stock assessment and Task #4 regarding public scoping. This memorandum outlines the WG's initial recommendations regarding Tasks #3 and #4 for Board consideration at the 2024 Summer Meeting. The WG meeting summaries are enclosed.

The WG will provide a full report for the Board's consideration at the 2024 Annual Meeting with a summary of all WG tasks and associated WG recommendations on addressing RRM.

### ***Task #3: Stock Assessment Work To Inform RRM Discussions***

The WG first acknowledged and reviewed past work by the Technical Committee (TC) in late 2020 to explore the sensitivity of the stock assessment model to different recreational release mortality rates ([TC Memo M21-04](#)). Overall, changing the release mortality rate assumption for the entire time series of the stock assessment changed the scale of the estimates of female spawning stock biomass (SSB), fishing mortality ( $F$ ), and recruitment but did not change the overall trend, or change stock status in 2017. The TC concluded that the model is somewhat sensitive to major misspecification of release mortality rate, but less sensitive to smaller scale misspecifications.

M24-53

The WG noted this past TC work was valuable to understand how different constant RRM rates impact the historical time series. Notably though, none of the scenarios simulated a midstream shift in the RRM during the historical time series, such as might result from hypothetical management changes. **Given the Board's current interest in understanding how actions to reduce RRM would impact the stock moving forward, the WG recommends tasking the TC as follows.**

These tasks are intended to help the Board understand the tradeoff between reducing the release mortality rate vs. reducing the number of releases overall. The WG recommends the TC address these tasks as part of the ongoing 2024 Stock Assessment.

1. If a reduction is needed to achieve rebuilding, determine how low the release mortality rate would need to be to achieve that entire reduction through the release mortality rate alone. In other words, if the number of live releases is constant, what would the release mortality rate need to be to achieve the reduction?
2. If a reduction is needed to achieve rebuilding, determine the percent reduction in number of live releases needed to achieve the entire reduction through live releases alone. In other words, using the current 9% release mortality rate, how many fewer live releases would there need to be to achieve the reduction?

*Tasks 1 and 2 represent the two extremes of reducing RRM. Task 1 focuses entirely on reducing the RRM rate to achieve a reduction (i.e., decreasing mortality from the fishing interaction), while Task 2 focuses entirely on reducing the number of live releases (i.e., controlling effort). These are hypothetical scenarios, which are not necessarily realistic for management implementation but would help characterize the tradeoff between the two management approaches to reduce RRM. Recreational harvest would be assumed constant for these scenarios in order to isolate the reduction to RRM. Considering commercial harvest in the overall calculation for the reduction, the WG recommends two iterations for each scenario: one with constant commercial harvest and one with an equal reduction for commercial harvest.*

3. If a reduction is needed to achieve rebuilding, determine the percent reduction in number of live releases needed under the current 9% mortality rate, assuming there is an associated reduction in recreational harvest due to no-targeting closures.

*Task 3 assumes the implementation of no-targeting closures would result in a reduction in both harvest and live releases. The TC would need to determine how to best quantify the reduction in live releases from no-targeting closures, which depends on several assumptions including how many striped bass are still caught and released as incidental catch when targeting other species. The WG again recommends two iterations for each scenario to account for commercial harvest in the calculations: one with constant commercial harvest and one with an equal reduction for commercial harvest. The WG*

*recommends the TC also comment on how potential reductions from no-targeting closures could vary depending on season, as catch varies throughout the year and by region.*

4. Identify the tradeoffs of implementing no-targeting closures at different times of the year with different assumed release mortality rates to help inform when and where implementing no-targeting closures would result in the highest reduction. Factors could include water temperature and salinity, with the assumption that the release mortality rate is higher when the water temperature is high and the salinity is low.

*The WG acknowledges that a reduction associated with specific no-targeting closures depends on several factors including assumed release mortality rate, length of closure, current level of harvest and releases, angler behavior, etc. Any guidance from the TC on the best use of no-targeting closures to achieve reductions would be helpful.*

#### **Task #4: Public Scoping on Measures to Address RRM**

This task to consider public scoping on RRM measures emerged from the possible scenario of the Board considering management action via Board vote (i.e., no addendum process) in October 2024, or shortly after, if the 2024 Stock Assessment Update indicates a reduction to achieve rebuilding is necessary. If that were to occur, completing public scoping prior to the October Board meeting could be very beneficial. Public scoping would need to be conducted from about mid-August to mid-September in order to gather and process the information prior to the October Board meeting.

The WG discussed the utility of an online survey to gather public input on RRM, and scoped what that survey could look like and what questions could be asked of the public. The WG developed an initial set of survey questions for WG discussion that included questions on no-targeting closures, gear restrictions, and fish handling practices. Specifically, the questions seek to elucidate public opinion on topics including angler response to closures, voluntary vs. mandatory gear restrictions, equity, enforceability, ability to quantify impacts, and general level of support for these types of measures. The survey questions also asked for information about respondents such as where they fish, what type of recreational stakeholder they identify as, how frequently they target striped bass, and why they release striped bass (preference vs. regulation).

The WG is supportive of this initial progress on survey development, and supportive of the survey approach in general, to gather input from the public on the complex issues around addressing RRM. However, the WG is concerned that conducting the survey prior to October is not enough time to ensure the survey is well-developed and to capitalize on this opportunity. The WG noted this survey could inform management beyond just the next stock assessment, and this survey effort is critically important for future striped bass management. Taking additional time to develop the most optimal survey tool would be beneficial to make the most of this opportunity to gather public input on RRM. WG members also stressed that they are not trained in developing survey questions, and consulting with other committees would be

beneficial, including the Commission's Committee on Economics and Social Sciences (CESS), the Striped Bass Advisory Panel (AP), and potentially consulting external experts on survey design if time and resources allow.

**The WG recommends the Board extend the timeline for conducting a public survey on RRM to at least after the 2024 Annual Meeting.** The Board could plan to conduct a survey shortly after the 2024 Annual Meeting, which still leaves some possibility for the survey to inform Board action, if a reduction is needed, if the Board takes action later in 2024 (e.g., special Board meeting in November or December) instead of at the 2024 Annual Meeting. Or, the Board could plan to conduct a survey in 2025 to inform future management more broadly. And the WG does not believe that the lack of survey results would prevent the Board from considering management action via Board vote (i.e., no addendum process) in October 2024, or shortly after, if the 2024 Stock Assessment Update indicated a reduction to achieve rebuilding was necessary. States can also conduct outreach to their striped bass stakeholders prior to the October Board meeting.

The WG emphasized the importance of getting input from survey experts to ensure that the survey provides the public feedback the Board needs in an unbiased format. The WG also identified the need for an outreach strategy for disseminating the survey to stakeholders. Although the WG and Board have the ability to develop and conduct the survey and analyze the results, additional input from CESS members, the AP, and other experts would be useful and would require extra time.

*Enclosed: June 24 and July 17 WG Meeting Summaries*



# Atlantic States Marine Fisheries Commission

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## Striped Bass Board Work Group on Recreational Release Mortality Meeting Summary

Webinar  
June 24, 2024

**Work Group Members:** Chris Batsavage (NC, WG Chair), Nichola Meserve (MA), Marty Gary (NY), Adam Nowalsky (NJ), Mike Luisi (MD), David Sikorski (MD), Max Appelman (NOAA)

**ASMFC Staff:** Emilie Franke, Kurt Blanchard

**Public:** Allison Colden, Andy Danylchuk, Armando Guerrero, Caitlin Craig, Chris Scott, Corrin Flora, Jeff Mercer, Jessica Best, Justin Pellegrino, Lucas Griffin, Olivia Dinkelacker, Sascha Clark Danylchuk, Will Poston

The Striped Bass Board Work Group (WG) on recreational release mortality (RRM) met for the first time on June 24 via webinar. The WG Chair reviewed the four WG tasks approved by the Board and reviewed the WG timeline. The WG has two meetings scheduled for the summer and will provide a progress update and initial recommendations to the Board at the 2024 Summer Meeting in August. The WG will meet a few more times in August and September to continue working on the WG tasks and develop final WG recommendations. The WG will provide a report to the Board at the 2024 Annual Meeting in October with a summary of all tasks and any recommendations on how the Board should address recreational release mortality based on the findings of those tasks.

### WG Tasks Approved by the Board

1. Review existing no-targeting closures in state and federal waters, including any information on impacts to striped bass catch and effort as well as their enforceability. Identify potential angler responses/behavior change to those closures.
2. Review the MA DMF discard mortality study and other relevant reports to evaluate the efficacy of potential gear modifications.
3. Identify assessment sensitivity runs which may inform Board discussion around release mortality (e.g., how low would you have to reduce the release mortality rate in order to see a viable reduction in removals with the same level of effort?). Consider the tradeoff of reducing the release mortality rate vs. reducing the number of releases overall.
4. Consider public scoping on measures to address release mortality (e.g., online public survey ahead of the October Board meeting).

Tasks #3 on the stock assessment and task #4 on public scoping are time-sensitive and require Board input at the 2024 Summer Meeting, so the WG's progress report at the Summer Meeting will cover those two tasks.

#### ***Task #4: Public Survey***

The WG first discussed Task #4 on public scoping, which emerged from the possible scenario of the Board considering management action via Board vote (i.e., no addendum process) in October 2024, or shortly after, if the 2024 Stock Assessment Update indicated a reduction to achieve rebuilding was necessary. If that were to occur, public scoping completed prior to October could provide the Board with public input on measures to address RRM as the Board considered that action. A survey would need to be conducted from about mid-August to mid-September in order to gather and process the information prior to the October Board meeting.

ASMFC staff provided a summary of previous public comments gathered through the Amendment 7 process in 2022 on measures to address recreational release mortality. Draft Amendment 7 included options for gear restrictions and options for no-targeting closures for which the public provided comments. Ultimately, the Board implemented some gear restrictions in Amendment 7 but did not implement any no-targeting closures.

The WG noted support for conducting a survey to gather input on release mortality measures and that it would be informative to the Board. The WG discussed what topics potential survey questions could cover and discussed how the survey could be conducted. The WG suggested numerous topics for potential inclusion in a survey, which are listed below. ASMFC staff categorized all the WG suggestions following the call.

#### **Suggested Survey Topics and WG Rationale**

##### *Current Measures/Socioeconomic*

- What have the impacts been with the narrow slot limit? How has this slot limit affected trips? What are anglers/captains seeing on the water as far as how release rates are going up?
  - Gather socioeconomic data on impacts on the effect of the narrow slot limit on trips. This is new ground for the Board and is the Commission's role to dig into this.
  - The greatest interest about narrow slot is getting information from people and hearing the potential change of perspective. Before the recent narrow slot limit, there were public comments opposing no-targeting closures. Now with the narrow slot, there could be a potential change of perspective about measures to address release mortality.
  - Management measures (i.e., narrow slot) have changed in the past couple of years, and therefore angler perspective may have also changed. Do we want to be more specific about no-targeting closures? Changing perception among anglers?

- Some WG members were unsure about addressing the current slot limit in the survey, and noted the focus should be on the future rather than asking about the current measures.
- Wave-specific data was used for Maryland closures, and it is important to look at the effects across time of year. For example, during the no target closure a tackle shop lost significant business. Need to look at what fish we are saving vs. the impacts on communities.
- What is causing people's catch and release (preference versus regulations)? This could help inform socioeconomic considerations.

### *Big-Picture*

- When we talk about doing things that are more difficult to enforce or quantify, there seems to be a reaction from the Board with some hesitancy to implement unquantifiable measures. Does the public need us to quantify the result and are we accountable as a Board? For release mortality measures, is it as important to meet a percent reduction or just to reduce overall effort? Is the public comfortable reducing effort without being able to pinpoint reduction?
  - We are at a point in management where we need to stretch to see a reaction from the stock. How willing would the public be with going forward to reduce effort without an estimated reduction in removals?
- From a policy perspective, what level of release mortality is too much for this fishery? Release mortality has been high for decades and is only recently getting a lot of attention. Is the high attention due to poor stock status? How much is too much? Is stock status connected to the perception that release mortality is too high?
- Question to catch-and-release fishery participants: how can you be part of the solution? How can this segment of the fishery participate in reducing release mortality?

### *Seasonal Closures*

- How would the public respond to a no-targeting closure; 1-week, 2-week, 3-week, etc.? Not go fishing, target other species, go to another state?
  - This information would be very informative to no-targeting closures
  - Data is missing on how anglers would respond to seasonal closures; great first step; not sure how the Striped Bass Technical Committee (TC) would analyze seasonal closures. TC could weigh in on how to collect this data to fold into those calculations.
- Do we want more feedback on focused no-targeting closures? Closures when water/air temperatures are warm? Certain months and location? Certain parts of a waterbody, e.g. estuaries instead of ocean?
  - Easier to implement and enforce closures in a specific area/time of year. Anglers still have the opportunity to fish elsewhere.

- Have opinions on seasonal closures changed since Amendment 7? What is the goal of the closures that people would support? What times of year would reduce effort the most? Or are closures based on environmental conditions? Should we be balancing this? If people support temperature-based closure, how do you balance that up north in areas like New England where the temperatures are not as high?
  - No-targeting closures were implemented in Maryland and the Potomac River Fisheries Commission (PRFC) to both meet the reduction and due to environmental conditions. Recreational management and environmental conditions continue to change and we need to understand behavior along the coast.
- If we consider no-targeting closures, there has to be information gathered about the impacts on different sectors. There is one group of the fishery that won't be impacted by a no-harvest closure, while everyone would share the burden with a no-targeting closure. Have to discuss fairness issues.
- Between ME and NC there are major differences in fishing practices. If environmental conditions are such that it makes sense to reduce targeting during time periods when fishing mortality can be extreme (i.e., actions in the Chesapeake Bay to expand no-targeting closures), in order to be fair/equitable, what in addition to action in the Bay could happen on the coast in areas when the environmental conditions aren't as poor? How can we balance the recreational impact by not focusing on one particular area? If environmental conditions aren't a concern of New England fishermen, what would the stakeholders be willing to do to reduce mortality while other states have no-targeting?
  - Not sure we can apply a broad brush. Trying to think outside of conventional approaches.

#### *Gear Restrictions*

- Could be open-ended question to collect input on what individuals do or see on the water to reduce release mortality.
  - There are a lot of different ideas, views, and perspectives about tackle. Close to receiving information from Massachusetts Division of Marine Fisheries (MADMF) (e.g. two treble hooks are the worst). First DMF report may be available later in 2024. MADMF study doesn't look at everything (e.g., doesn't look at barbless hooks).
- How comfortable is the public going to be with measures that we don't have data for, but it is perceived to have a reduction factor?
- What do you do with a fish boatside?
  - Akin to tarpon regulations in Florida. Exposure to air and temperature components affect survivability. For example, un-hook the fish in the water. States have general language, release without undue harm; handling is a big part of it.



- Should state agencies be regulating fishing gear, or should changing gear be part of education/outreach/best management practices? Would best management practices as outreach be enough vs. regulation?
- Support a question about wire line (discussed during Draft Amendment 7 process), but specifically in the vein of how do you believe it will impact mortality? This is probably the fastest way to get the fish to the boat which may be beneficial, but people may be opposed to it because it's not the most "sporty" way to catch striped bass.
- In general, could ask why you support a gear restriction and why it would decrease release mortality.

The WG generally discussed other points about the survey. The WG noted the survey should be focused and keep the questions to a point that is reasonable. The survey should focus on questions about future actions, which may not be conventional management measures. Non-conventional measures (no-targeting, expansion of current gear restrictions) are not things managers often address. A WG member noted gear restrictions don't necessarily benefit all species. The NC Marine Fisheries Commission asked about requiring circle hooks for all species. While it would benefit some species, it would impact other species that are hard to catch with a circle hook or won't have the expected benefit for some species. Another WG member noted educating the public about release mortality is challenging, and there are better ways to communicate how the 9% rate works.

Regarding the survey format, the WG noted the survey would likely be conducted via an online survey link. There was some concern about participation in an online-only survey and the value of proactive outreach like port meetings or webinars to collect information. There was also concern about not getting enough feedback via a survey. There should be background information provided with link to the survey with the same information presented to everyone that fills out the survey. And the WG should carefully consider how folks are identified/grouped in different sectors. Given the time constraints of conducting the survey in the next few months, an online survey makes sense to cover the diversity of stakeholders and how they fish for striped bass.

The WG acknowledged there would not be sufficient time to consult experts on survey design. Logistically, ASMFC could host the survey on an online survey platform and compile/analyze the results. The Board members would be responsible for distributing the survey to ensure stakeholders have the opportunity to participate. Regarding timeline, if the Board approved the survey effort in August, the survey could be live for about a month from mid-August to mid-September. ASMFC staff would then process the responses for WG review prior to the October Board meeting.

**Next Step: Three WG members (N. Meserve, D. Sikorski, M. Gary) will draft an initial set of survey questions based on WG input today, and will provide the draft for discussion at the next WG meeting.**

### ***Task #2: Gear Restrictions***

The WG then discussed task #2 on gear restrictions and the need to identify any other studies, in addition to the MADMF study, that should be considered in the discussion of gear restrictions.

As background, ASMFC staff reviewed the Board's past consideration of gear restrictions in the FMP (Addendum VI and Amendment 7).

The WG noted the MADMF study seems to indicate the conservation benefit may not be as clear for circle hooks as expected. In the late 1990s, early 2000s, Maryland conducted release mortality studies showing benefits of circle hooks based on incidence of deep hooking. Hooks are very complicated, and the style of circle hooks is different than what was used in earlier studies. Bait types and terminal tackle are also different along the coast. WG members will send ASMFC staff the past Maryland studies for reference.

From the MADMF study, treble hooks seem to have the highest mortality rate. A single treble hook on a lure had a lower mortality rate, but double treble hook lures had the highest mortality rate. One question to consider is are there states that have rules on the maximum number of hooks on a lure (maybe just during the spawning season)? There was also worse survival at water temperatures above 75 degrees Fahrenheit. Bait fishing also had a higher mortality rate. The WG noted there is a wide range of predicted mortality from the different lures. The challenge is what is available for anglers to purchase. Barbless hooks are easier on the fish and the angler.

The WG also noted that release mortality also depends on environmental conditions, not just hook type. Even if the hook was set in the lip, there still could be a high mortality rate if water and air temperatures are high.

**WG members will identify additional studies on gear restrictions and send to ASMFC staff. The WG will return to the gear restrictions discussion at a later WG meeting.**

### ***Task #1: No Targeting Closures***

The WG briefly discussed no targeting closures and the potential type of information available from enforcement agencies. M. Appelman will be talking with NOAA Office of Law Enforcement (OLE). The WG suggested reaching out to Caleb Gilbert from OLE who provides reports to the Mid-Atlantic Council and has referred to no-targeting violations. The WG also asked whether contacting the US Coast Guard was needed.

The WG is interested in how many tickets are written for targeting striped bass. However, based on initial information, it seems like enforcement interactions regarding no-targeting violations alone are verbal and not necessarily written citations.

**Next Step: WG will request information from MDDNR, PRFC/VMRC, NOAA on no-targeting closures to be discussed at a later WG meeting.**

### ***Public Comments***

- Will Poston (ASGA) – There is a fine line between asking the recreational community too much on the survey. Focus on the key questions. Focus on the tradeoffs associated with no-targeting vs. no-harvest and public opinions on gear restrictions. Be as specific as possible for the survey.
- Jeff Mercer (RIDEM, Law Enforcement Committee rep for Striped Bass Board) – Coast Guard violations go through NOAA OLE. State enforcement also works in EEZ, and there are a lot of violations for possession and often verbal warnings. The Law Enforcement Committee recently ranked management measures on how enforceable they are, and no-targeting closures were last on that list (i.e., least enforceable). Not sure if any cases have been made in the Northeast on the targeting prohibition. There are challenges with prosecuting this and proving intent.
- Andy Danylchuk – Conducting a UMass lab study on how striped bass respond to capture and handling. This is the second year of data collection, and data should be available on capture-handling. There was also an angler survey distributed from Carolinas to Canada related to perceived threats to striped bass fishery.



# Atlantic States Marine Fisheries Commission

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## Striped Bass Board Work Group on Recreational Release Mortality Meeting Summary

Webinar  
July 17, 2024

**Work Group Members:** Chris Batsavage (NC, WG Chair), Nichola Meserve (MA), Marty Gary (NY), Adam Nowalsky (NJ), Mike Luisi (MD), David Sikorski (MD), Max Appelman (NOAA)

**ASMFC Staff:** Emilie Franke, Katie Drew, Kurt Blanchard

**Other Board Members:** Megan Ware (ME, Board Chair), Ray Kane (MA)

**Public:** Allison Colden, Angela Giuliano, Corrin Flora, Daniel Herrick, Michael Woods, Mike Waine, Ralph Vigmostad, Ross Squire, Tony Friedrich, Will Poston

The Striped Bass Board Work Group (WG) on recreational release mortality (RRM) met for the second time on July 17 via webinar. The WG Chair reviewed the four WG tasks approved by the Board and reviewed the WG timeline. After this meeting, the WG will provide a progress update and initial recommendations to the Board on Task #3 on the stock assessment and Task #4 on public scoping at the 2024 Summer Meeting in August. The WG will meet a few more times in August and September to continue working on the WG tasks and develop final WG recommendations. The WG will provide a report to the Board at the 2024 Annual Meeting in October with a summary of all tasks and any recommendations on how the Board should address recreational release mortality based on the findings of the WG tasks.

### ***Task #3 Stock Assessment and Release Mortality***

*Task #3. Identify assessment sensitivity runs which may inform Board discussion around release mortality (e.g., how low would you have to reduce the release mortality rate in order to see a viable reduction in removals with the same level of effort?). Consider the tradeoff of reducing the release mortality rate vs. reducing the number of releases overall.*

ASMFC Staff, K. Drew, reviewed past work by the TC in late 2020 to explore the sensitivity of the stock assessment model to different recreational release mortality rates ([TC Memo M21-04](#)). The TC ran the assessment model under five RRM scenarios:

- Base case: 9% rate for all regions and seasons
- Low rate: 3% for all regions and seasons
- High rate: 26% for all regions and seasons
- Seasonal rates: 5% for Jan-June, 12% for July-Dec for both regions
- Regional rates: 16% for the Chesapeake Bay, 9% for the ocean for all seasons

Overall, changing the release mortality rate assumption for the entire time series of the stock assessment changed the scale of the estimates of female spawning stock biomass (SSB), fishing mortality ( $F$ ), and recruitment but did not change the overall trend, or change stock status in 2017. Significant changes to the release mortality rate (i.e., going from 9% to 3% or 26%) resulted in significant changes to the scale of the population, but did not affect the final stock status determination. The higher release mortality rate did result in a stock trajectory where striped bass became overfished earlier in the time series than the other scenarios, but the 2017 stock status was consistent across all scenarios.

The seasonal and regional release mortality rates, which the TC felt were the more realistic scenarios, had minimal impacts on the estimates of SSB,  $F$ , and recruitment, and minimal impacts on stock status. Therefore, the TC concluded that the model is somewhat sensitive to major misspecifications of release mortality rate, but less sensitive to smaller scale misspecifications. Refining the overall coastwide estimate to reflect regional and/or seasonal differences can be pursued for the next benchmark assessment; it would likely not result in significant changes to population estimates or stock status but could produce minor improvements in the estimates.

To address the Board's interest in the tradeoff between reducing the release mortality rate vs. reducing the number of live releases, ASMFC staff presented three potential questions that the TC could address during the 2024 stock assessment. The WG could recommend the Board task the TC with these (or other) questions related to RRM.

### **Potential Questions for TC**

1. If a reduction is needed to achieve rebuilding, how low would the release mortality rate need to be to achieve that entire reduction through the release mortality rate alone? In other words, if the number of live releases is constant, what release mortality rate applied to those live releases would achieve the reduction?
2. If a reduction is needed to achieve rebuilding, what percent reduction in number of live releases is needed to achieve the entire reduction through live releases alone? In other words, using the current 9% release mortality rate, how many fewer live releases would there need to be to achieve the reduction?
3. If a reduction is needed to achieve rebuilding, what percent reduction in number of live releases under the current 9% mortality rate is needed, assuming there is an associated reduction in recreational harvest due to no-targeting closures?

Staff noted Questions 1 and 2 represent the two extremes of reducing RRM. Question 1 would rely entirely on reducing the RRM rate to achieve a reduction (i.e., decreasing mortality from the fishing interaction), while Question 2 would rely entirely on reducing the number of live releases (i.e., controlling effort). These are hypothetical scenarios which are not necessarily realistic for management implementation but would demonstrate the tradeoff between the two approaches to reduce RRM. Recreational harvest would be assumed constant for these

scenarios in order to isolate the reduction to RRM. For all three questions, two iterations could be run for each scenario to account for commercial harvest in the calculations: one with constant commercial harvest and one with an equal reduction for commercial harvest.

The WG asked staff to clarify the difference between the past TC work on sensitivity runs and the RRM rate and the first question regarding how low the RRM rate would need to be to achieve a reduction. Staff clarified that the past TC sensitivity runs looked back in time and applied different RRM rates to the historical time series to address the scenario of if the RRM rate was different in the past, how stock status would be affected over time. These three potential questions for the TC look to the future assuming management occurs to reduce the RRM and by how much RRM would need to be reduced in the next several years to achieve the reduction. The 9% assumption for the historical time series would not change.

For question 3, the TC would need to determine how to best quantify the reduction in live releases from no-targeting closures, which depends on several assumptions including how many striped bass are still caught and released as incidental catch when targeting other species. The WG noted that harvest and effort is not constant throughout the year, so a no-targeting closure (question 3) would have different potential reductions depending on the time of year. Staff noted this is something the TC would have to consider in determining the estimated reduction overall, and how effort might change under a no targeting closure. It's possible the TC could present a range of estimated reductions depending on assumptions about effort, timing, etc.

Staff also clarified that it's difficult to tease apart why live releases might decrease in the future, either from management or from reduced effort due to reduced availability from weaker year classes entering the populations (i.e., poor recruitment). However, the projection scenarios are hypothetical and a reduction in live releases is achieved to compare to reducing the RRM rate.

The WG supports moving the three proposed questions forward to the Board for potential tasking to the TC. The WG noted these questions would be useful. Staff also clarified this would be a realistic task for the TC to complete during the 2024 assessment, and there is a sub-group of TC members working on the challenge of quantifying estimated reductions from no-targeting closures.

The WG added one additional question to bring to the Board:

4. Identify the tradeoffs of implementing no-targeting closures at different times of the year with different assumed release mortality rates. Generally, when/where would implementing a no-targeting closure result in the highest reduction? Factors could include water temperature and salinity with the assumption that the release mortality rate is higher when the water temperature is high and the salinity is low.

For example, if we close during a time when RRM is less than 3%, is it worth a closure during that time? If we close during a time when RRM is high, are there more savings? The WG noted

any guidance from the TC on the best use of no-targeting closures to achieve reductions and the different factors to consider would be helpful. Staff noted the TC may not be able to provide a perfect answer but could perhaps provide a tool to understand different factors like length of closure, time of year, and associated RRM and what may be feasible management options. A WG member noted past Maryland conservation equivalency proposals applied methodologies to quantify the impact of no-targeting closures and circle hook implementation and could be used as a starting point.

**Next Step: Recommend the four questions to the Board for potential TC tasking via WG memo for August meeting.**

***Task #4: Public Survey***

The WG continued discussion on this task from the June 24 WG call. Staff reviewed the origin of this task again, which emerged from the possible scenario of the Board considering management action via Board vote (i.e., no addendum process) in October 2024, or shortly after, if the 2024 Stock Assessment Update indicated a reduction to achieve rebuilding was necessary. If that were to occur, public scoping completed prior to October could provide the Board with public input on measures to address RRM as the Board considered that action. A survey would need to be conducted from about mid-August to mid-September in order to gather and process the information prior to the October Board meeting.

Since the first WG call on June 24, three WG members drafted survey questions for WG discussion. The draft survey questions incorporated several issues associated with these types of measures into the questions, including angler response to closures, voluntary vs. mandatory gear restrictions, equity, enforceability, ability to quantify impacts, and general level of support for these types of measures. The survey questions also asked for information about survey participants such as where they fish, what type of recreational stakeholder they identify as, how frequently they target striped bass, and why they release striped bass (preference vs. regulation).

WG members generally supported the progress on the survey questions and continue to support the idea of a survey but expressed additional concerns about the proposed fast timeline to potentially conduct a survey starting in August. The WG noted they are not survey design experts, and this is a very important issue that the Board may want additional input on to develop the best survey possible before taking it out to the public. The WG noted this is a critical, valuable opportunity to gather input from the public on RRM, and the survey should be done right.

WG members suggested potentially extending the timeline for this survey and conducting it this fall, potentially after the October meeting but before the Board takes any action, or a longer-term timeline of conducting the survey in 2025. The Board should also develop an outreach plan to make sure states have a plan in place with resources to distribute the survey to stakeholders.

WG members suggested getting input from the ASMFC Committee on Economics and Social Science (CESS), which may have some members who are experienced with similar surveys, as well as input from the Striped Bass Advisory Panel. If funds are available, the Board could also consider consulting an outside expert on survey design.

The WG decided to pause work on further developing the survey questions until the Board provides guidance on the timeline and other committees/experts can be involved in the process. The WG decided the Board should decide on the timeline and process first, and then the draft survey questions can be further developed and shared with others at that time. The WG did have initial feedback on the first set of survey questions as follows:

- Need for email validation and/or gather additional personal information from participants to ensure only one reply per person. Could ask for name, city, state. Validating emails would be the most effective.
- Original goal of 15 minutes for a participant to complete, but this might be too long. Consider a goal of 5-10 minutes. We want to be comprehensive but unrealistic to try and collect a complete view of what people think of the fishery. Shorter is better. Focus on the areas where we want impact.
- Concern about leading questions. For example, the questions state there is a concern about enforcement rather than letting the participant express their concerns about no-targeting closures.
- Emphasize that MRIP data are estimates of harvest and release numbers. They are not absolute, these are estimates.
- We should think intentionally about how we ask stakeholders to identify themselves (private, for-hire, shore-side).
- The topics of fish handling and gear restrictions should be separate.
- Question about how angler behavior would change with a no-targeting closure is difficult because the answer could depend on when the no-targeting closure would occur. If striped bass were the only species available, that would mean one answer. But if there were other species available to target, the answer might be different.

**Next Step: WG recommend the Board extend the survey timeline and identify people to involve in the process (possibly CESS, AP, outside experts if Board desires and funds allow).**

#### ***Public Comments***

- Will Poston (ASGA) - Appreciate including the broader industry (e.g., tackle shops), in addition to people who are actually fishing. Consider asking the broad question of if a reduction is needed, what is the preference/trade-off of the ability to target striped bass throughout the year vs. the ability to harvest at certain times.